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### An Address.<sup>1</sup>

#### IMPRESSIONS ON THE PRESENT POSITION OF THE MEDICAL PROFESSION IN ENGLAND AND AMERICA.

By T. GIBLIN,

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THE privilege of attending the World Medical Association General Assembly at Athens last year as an Australian delegate, where I had the opportunity of meeting some of the leaders of the organized profession from Great Britain and America, was an unrivalled chance to obtain an impression of what these countries felt about the present and future of the status of the medical profession and its place in the fabric of society. The natural corollary of the visit to Europe, and a return home via England and the United States, enabled me to visit and see at first hand the headquarters of both the British Medical Association and the American Medical Association, where I was received with the greatest kindness and hospitality and where a further opportunity was given me to make a general assessment albeit a rather hurried one. Finally, discussions with surgical colleagues, general practitioners and some members of the lay public in these two countries are other sources from which these impressions are formed.

<sup>1</sup>Read at the annual meeting of the Tasmanian Branch of the British Medical Association on February 14, 1953.

### Great Britain.

Let us first consider the position in Great Britain. The general scheme of its complete National Medical Service is well known to you and I shall not elaborate on it. But there are certain aspects which came as a revelation to me and maybe would be of interest to you. First, the British Medical Association is entirely satisfied with nearly everything in the service since the Dankwaerts award. This applies to both general practitioners and specialists. The only major thing the British Medical Association would like altered is that the general practitioner should have the right to follow his patient into hospital and take some part in his attendance there. This would seem to be like having your cake and eating it too—for it is apparent that in any complete National Medical Service there must be a reasonable dividing line between practitioner and specialist, and the hospital is that line when a sessional payment is made for services there. This problem is mainly felt in the smaller country town hospitals, which now have visiting specialists appointed, where in the past the local practitioners attended their own patients if they wished.

The Chairman of Council of the British Medical Association made quite a fighting speech on behalf of Great Britain at the discussion on Social Security at the World Medical Association. In that body the Earle Page scheme had received commendation from America and most other nations. The British Medical Association in Australia received praise for attaining its objectives, which were those of most other nations—and so those of the World Medical Association. Great Britain, however, said there must be no misunderstanding—the profession there had also obtained its objectives and, indeed, they felt that

they were better satisfied with theirs than ours. The profession controlled its members in all aspects of the National Medical Service in England and also—to a far greater extent than we did in Australia—the Government. No Government in England would think of presenting a bill or regulations affecting the profession without prior consultation and consent of the British Medical Association. It had done so once; the British Medical Association protested, and an apology and assurance that such would not happen again were forthcoming immediately.

In the National Medical Service there is a good deal more scope in the selection of location of practice than I had thought. Admittedly the particularly popular areas, like Bournemouth and the South Coast resorts, are saturated and vacancies occur only as the existing men retire at the age of sixty-five or give up practice. But in a very large portion of England—and certainly in all areas of dense population—it is possible to get a panel. So that, in general, there is not a very great difference in opportunity of setting up where one would like, except that a practice can no longer be bought in a very desirable area. There is plenty of scope, therefore, for young graduates in general practice; in fact doctors in old-established practices are finding it hard to obtain assistants or partners in industrial areas, which are not popular with the recently qualified. Private practice still exists in some measure, but private hospitals are diminishing in number.

That, in brief, is the general official picture—rather a different one from what one would gain from the *British Medical Journal*, where grievances are aired at length.

In a period of adjustment, there are certain categories that are affected more than others. In England at the moment these appear to be at each end of the professional life—and to affect specialists more than general practitioners. There is the ex-registrar or junior specialist class—large numbers of whom were trained just after the war and for whom there are no specialist appointments available. Not all of them would appear to be able to survive as specialists. As against this, those that have obtained appointments have a greater economic security by virtue of their paid status. Then there are the men, again particularly specialists, who are retiring from the service at an age of sixty-five with minimum superannuation as they have been in the service only a few years. Surgeons particularly depend on hospitals for their survival—and when there are a limited number of private hospitals, these men are hard put to it to get a living wage, although they may be still at the height of their professional powers. For other branches of the profession, the plight is not so bad—they can still carry on private practice and are not so completely dependent on hospital beds.

Many of the people in the middle income group still employ general practitioners and specialists in a private capacity for domiciliary, office and hospital services. For general practitioner services the wait for National Medical patients may be long, or the examination cursory from a man with a big list. The same delay occurs for patients with cold surgical conditions requiring a hospital bed. And so another general practitioner is called as a private practitioner or an intermediate bed used. These, of course, are the inherent weaknesses in any National Medical Service and are only to be expected.

It is interesting to note that some specialists with good appointments, that is, with a major portion of their working week employed on a sessional basis, actually discourage patients who wish to be dealt with as private or intermediate patients. "They need too much individual attention and after treatment cannot be delegated to my house staff", one surgeon said to me. For this attitude—and the official one of the British Medical Association concerning a National Medical Service—I think the general poverty of the country, with insecurity of income and the ruthless taxation that is such a discouragement to enterprise, is the explanation. The British Medical Association must not be blamed for what appears to be a sacrifice of principles. The British Medical Association has realized what is, under the circumstances, best for the profession and

the people, and has accepted it, taking steps to ensure that the profession is consulted on all aspects of the administration and working of the scheme.

The profession is not down and out—just as England is not down and out—but the profession is a stern realist and has entered into a compromise which does not ring down the knell on private practice. This is in large measure due to the service being a capitation and panel one—rather than a fee-for-service, with doctors being either in or out of the service. Private practice can be developed again in the future, should this prove rosy enough to justify its resurgence, or the wish of the people turn from its recent general desire for complete security and the welfare state.

#### The United States of America.

The general resistance of all sections of the community to any intrusion of government into domestic affairs is a refreshing breeze on arrival in America. This is the main factor which ensured the recent Republican victory. The merits of individual enterprise—the right to work as hard as you like and to earn more money by so doing—are still rooted strongly in the American character. The system of private enterprise, however, is not the end product of American life—it is only the instrument. The idea of voluntary association is the real American tradition. This tradition of community effort is still flourishing today. America is, in fact, far more social and cooperative than it is individualistic and aggressive.

In most other countries the mechanism employed for making private desires subserve the public welfare is "more and more government". But Americans believe in the individual's responsibility for public welfare and jealously guard this responsibility from a government which always seems to be reaching out to take over.

This teamwork is, I think, the American ideal. Medical practice in all its aspects, for example, provision of hospitals and industrial medicine, is essentially private in character and has a very minimum of governmental assistance or control.

To maintain this *status quo*, the organized profession—the American Medical Association—has assumed very wide interests and responsibilities. These include advice on medical education and hospital standards, organization of health exhibits to the public, production of medical films for exhibition by doctors to professional and lay audiences, and advice on industrial health to convince both labour and management of the importance of preventive medicine. A major enterprise is the Council on Pharmacy and Chemistry—with a well-equipped laboratory—which since 1905 has evaluated new drugs and reported through *The Journal of the American Medical Association* on their purity, therapeutic value and limitations. The Association investigates and evaluates all therapeutic and diagnostic devices—such as electrocardiographic and X-ray equipment. There is also a Medical Economic Research Bureau. This studies all phases of economics pertaining to the practice of medicine and gives advice on distribution of doctors, voluntary insurance, statistics on costs and prices of medical care and so forth. This advice is given to both doctors and lay bodies. A comprehensive and efficient Public Relations Department gives advice to State medical societies and is responsible for the overall public relations of the Association. A weekly news release on socio-economic or association news is prepared and distributed to the Press and radio stations. *The Journal of the American Medical Association* is the official journal and its editorials state official policy. For this reason it carries much more weight with the Press and public than our own journal.

A membership of 130,000 enables all this to be done on an annual subscription of 25 dollars—the equivalent of three average consultation fees. There is a full-time staff of 110 executives and some 500 office employees. Of the income of approximately nine million dollars, 23% is spent on public information, 55% on scientific activities, including journal production, and only 7% on administration.

It is thus seen that the Association is taking a very active and positive role in maintaining the *status quo* of private practice—the maintenance of private hospitals and general resistance to the intrusion by Government into medicine in any way. Its activities have made it respected and popular with the Press and general public.

Although there are many full-time paid doctors in executive positions, quite a number of American Medical Association members are very willing to give up time as members of committees and councils for these various activities.

The increasing costs of medical care and hospitalization—25 dollars a day is the average cost for a private bed now—have been a stimulus to hospital and medical insurance and the profession has actively sponsored this, although it does not itself run any insurance scheme. The profession's prophylactic treatment against any tendency to government aid and consequent control is rendered more likely to succeed by the sense of social responsibility still so prominent in American life, by the far less savage taxation present there at the moment, and by the allowance of all health insurance premiums as a taxation deduction.

#### Australia.

I think that we could with advantage apply the lessons to be learnt from these observations to the organized profession in Australia. We, here, are in a somewhat half-way position between England and America economically and in our outlook towards the role of "Government" in domestic affairs. It is likely that we will suffer in perpetuity the crushing burden of heavy taxation. Government has intruded—or been asked to intrude by the requesting from it of subsidies or so-called beneficent aid—into too many community activities for us ever to throw off this creeping paralysis. The political Labour Party is openly organized to this end, and with one of two nearly equal parties building up a large non-productive civil service, the other party cannot really stem the flood. We should be, however, in a more prosperous position than England, who undoubtedly poured her resources into the last war more liberally than Australia. Primary production can still be our security for economic stability.

The answer then to the future of medical practice in Australia is surely that the people will demand some government aid towards the costs of medical care, but they will not themselves insist on this being total, that is on a National Medical Service. In our case the Earle Page scheme of a subsidized health insurance would seem to be best for the profession and the people. If we agree with this in principle, it is our responsibility to do our best to influence public opinion to demand this government assistance in preference to a National Medical Service.

I am convinced that a more extensive central organization would amply justify itself by results and by establishing a more popular and sympathetic feeling on the part of the public towards the British Medical Association.

The development of a full-time Federal secretariat with a public relations committee and other ancillary services is long overdue, and would be a very good investment for us as a first step in a rearmament programme to prevent us in Australia from slipping behind a medical "iron curtain". At present we each pay £1 ls. per year to the Federal Council and £1 journal subscription. The rest of your subscription is absorbed in a remittance to London and Branch running expenses. This £2 ls. is the equivalent to the 25 dollars American Medical Association subscription, for I presume that their State or local medical associations make a call as well as the American Medical Association. This £1 ls. is a ridiculously small amount for the very important Federal or national aspects of our Association. I would suggest that £4 or £5 would be a small price to pay each year for an efficient full-time secretariat, a public relations bureau and a research department on the lines of the American Bureau of Medical Economic Research, which would include committees on health education to the public, on hospital and medical

voluntary insurance, and for the extension of intermediate and private hospitals.

If all this had been done some years ago when the Federal Council itself resolved that the time had come for a full-time secretariat but then deferred implementing this because of lack of finance (until the Federal Articles of Association are changed no more than £1 ls. per annum per member can be demanded from any Branch), we would have been in a far happier position regarding our Federal organization, our public relations, and our research into the problems of medical supply and demand in various areas; and the public would have had hospital and medical insurance sold to it in advance of the Earle Page scheme.

I do not think that it is too late to put our house in order and get results before socialized medicine becomes once more a pressing problem in Australia.

#### URETERIC TRANSPLANTATION IN RECTAL SURGERY.

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Most of the indications for transplantation of the ureters in both adults and children are to be found in urological surgery. Such transplantation is required much less often in gynaecological, colonic and rectal surgery.

Many carcinomata arising in the pelvic viscera, such as the cervix, rectum and bladder, are relatively slow to metastasize, although local invasion soon occurs if treatment is delayed. As a result of this the operation of "pelvic clearance", "evisceration", "viscerectomy" or "exenteration" has been developed by Brunschwig (1948, 1950, 1951) for the treatment of extensive and otherwise uncontrollable malignant disease limited to the pelvis. This operation also has a place in the palliative treatment of patients with too widespread local extension for complete removal; but if distant metastases are found it is rarely justified.

In the operation of complete pelvic clearance, the bladder, prostate and rectum are removed in the male, and the bladder, uterus, vagina and rectum are removed in the female, together with the pelvic parietal fascia and peritoneum, lymphatics and lymph glands in both sexes. The length of ureters removed varies, but in most cases it is from the pelvic brim to the bladder. Towards the end of the operation the ureters are usually implanted into the sigmoid colon, the end of which is brought out as a terminal colostomy. Instead of being implanted into the colon the ureters may be brought out on to the skin. However, apart from discussing the points for and against cutaneous ureterostomies, one may say that there seems to be little place for extra "ostomies" if the patient already has or is going to have a colostomy. It is interesting to note that Brunschwig (1948) and Brintnall and Flocks (1950) do not recommend reperitonealization of the pelvic floor after this operation, but advise closure of the perineal skin incision without drainage. If their results are satisfactory, why do we repair the pelvic peritoneum at the end of a routine combined excision of the rectum for more localized malignant disease? Why not leave this widely open and close the perineal skin completely? There would then be no large cavity to fill in, and convalescence should then be expedited.

Apart from these operations of "pelvic clearance", transplantation of the ureters also finds a place in some cases of recto-vesical and recto-urethral fistulae, and occasionally even in cases of injury to the pelvic viscera; but the patient with a lesion of the rectum, in whom a ureteric transplantation is most often required, is the one with a carcinoma involving both the base of the bladder or ureter together with the rectum. This growth may have arisen primarily in the rectum, or it may have invaded it from the bladder, uterus, cervix, ovary *et cetera*.



It must be stressed that it is only at operation that the degree of malignant infiltration of a carcinoma of the rectum should be determined, and even then there is the possibility of error. If the rectum is fixed only to the prostate gland, part or whole of the gland may be removed *en bloc* with the rectum without the need for ureteric transplantation; whether such fixation is inflammatory or neoplastic is therefore of slightly less importance.

Occasionally a carcinoma of the prostate involves the rectal mucosa. This is one of the reasons for routine biopsy in all suspected cases of carcinoma of the rectum, and especially in cases in which it is not possible to identify the prostate on digital examination. In such cases the true site of the lesion can usually be determined by biopsy, and then the operation may be planned accordingly.

If the rectum is fixed to the vault of the bladder by malignant invasion, a segmental resection of this viscus may be possible. The bladder may then be repaired without encroaching on the ureters or their orifices, and if so all should be well. However, if the region of the ureteric orifices is adherent to the rectum, it is of prime importance to determine the cause of the fixation. Obviously, if the fixation is purely inflammatory, separation of the rectum from the neighbouring viscera should be carried out at the time of the original operation. The determination of the cause of fixation of the rectum to the base of the bladder or to the ureter would appear to be the major problem in ureteric transplantation in rectal surgery.

If a mistaken diagnosis of malignant involvement of the bladder or ureters by a carcinoma of the rectum has been made and the patient has been submitted to a uretero-sigmoid anastomosis, then the risks of the operation are unnecessarily increased and he is left with a "wet colostomy". Against that, it is so much worse to make the opposite mistake and to cut into the growth during an attempted dissection. With improvements in the results of uretero-sigmoid anastomoses, it would appear to be better from the patient's point of view as regards ultimate cure for the surgeon to be pessimistic concerning the cause of such fixation and to perform a uretero-sigmoid anastomosis when he is in grave doubt in cases in which there is no evidence of other extrarectal spread. Such a policy would leave more patients with wet colostomies; but it would also leave more patients without perineal recurrences, and it should leave more patients alive at the end of five or ten years.

As a result of the development of intractable complications or of progressive deterioration despite medical treatment, many patients suffering from chronic ulcerative colitis are submitted to operations for the establishment of permanent ileostomies, which they eventually learn to live with and to accept. It is difficult therefore to understand why a wet colostomy should often be regarded as something to be avoided no matter what the consequences to the patient. The disability of a wet colostomy has been greatly reduced by the introduction of the Pierce bag.

Apart from malignant infiltration, the next most common indication for uretero-sigmoid anastomosis in rectal surgery is probably the division of a ureter. Under such circumstances the proximal end of the ureter should be re-implanted into the bladder after mobilization; or, if this is not possible, it should be implanted into the colon. Implantation into the opposite ureter should never be performed, simple ligation of the ureter in an attempt to produce atrophy of the kidney is no longer justifiable, and attempts to restore continuity of the ureter by direct suture have been abandoned in most clinics because of subsequent ureteric obstruction (Read, 1950; Williams, 1948).

The patient with a large non-malignant recto-vesico-vaginal fistula has usually acquired it as a result of radiotherapy, and after local attempts to close the fistula have been unsuccessful the construction of a colostomy with the ureters implanted into the bowel above is one answer to the problem. This may be combined with a partial or complete clearance of the pelvis, especially in cases in which there is doubt about the persistence of viable foci of malignant disease (Brunschwig, 1951).

Another solution is to excise the involved portion of the rectum and to restore its continuity, and then at a later stage to implant the ureters into the colon if further attempts to close the remaining vesico-vaginal part of the fistula have failed. Such a project has the disadvantage that an intraabdominal anastomosis of the colon to the stump of the rectum would be more difficult than usual because of the changes in the tissues following radiotherapy. Most other types of restorative resections of the rectum often leave the patient with what is really only a perineal colostomy, and no patient would then appreciate transplantation of her ureters into the bowel. If the ureters have been exposed to heavy irradiation, their muscle coats may contract poorly (Graves and Buddington, 1950), and as a result regurgitation up the ureter is then especially likely to occur after colonic implantation. Just how important such regurgitation is in the absence of obstruction it is difficult to say.

Gun-shot wounds and other injuries which destroy part of the bladder or ureter and also involve the rectum do occasionally occur, but such injuries are often rapidly fatal, and only very rarely is a uretero-sigmoid anastomosis required after such an injury.

The cause or causes of the alterations in the electrolyte balance of the body after transplantation of the ureters into the caecum or colon are still being discussed by many authors, although it is most likely that reabsorption is one of the chief factors concerned. If reabsorption is accepted as being of any significance, the patient should be advised to empty the rectum as often as possible, and as has been pointed out by Jacobs (1952), he or his surgeon should not be proud of the ability of the rectum to hold urine for long periods.

Prior to the performance of ureteric transplantation, it must be ascertained that the bowel at the site of the anastomosis is healthy, that the anal sphincters function normally, and that there is good tone in the ureteric muscles. In the absence of any of these a uretero-cutaneous anastomosis is preferable. Chronic ulcerative colitis and diverticulitis are the two relatively common diseases of the bowel which are contraindications to uretero-sigmoid anastomosis. Following cystectomy in a patient with an incontinent anus and without a colostomy, it would seem that a uretero-cutaneous anastomosis is again to be preferred; and Fish and Stevenson (1949) have described such a case.

Writing in "British Surgical Practice", Riches (1950) states that "rectal incontinence, unless it can be cured previously, as by a Thiersch's operation, is always a contraindication to uretero-colostomy". There is no doubt that rectal incontinence is a contraindication unless the ureters are being inserted above a colostomy, but it is not possible to agree with his inference concerning the results of Thiersch's operation. This procedure, which consists of inserting a wire suture around the anal canal to narrow it, is a very useful manoeuvre in the treatment of rectal incontinence (and prolapse). After the operation the patients are in a much better position to control the passage of normal faeces, but they do not usually improve to the extent of being able to hold fluids in the rectum.

The pre-operative preparation for uretero-sigmoid anastomosis is similar to that for many other major intra-abdominal procedures—that is, it consists of the correction of fluid, electrolyte, vitamin and protein deficiencies together with any anaemia. These measures are combined with the same preparation of the bowel as is used for a primary intraabdominal resection and anastomosis of the rectum plus the administration of urinary antiseptics.

Until recently there was probably some place for a defunctioning colostomy in the preparation of the bowel for a uretero-sigmoid anastomosis. However, by its effectiveness in reducing the numbers of viable organisms in the bowel, the oral administration of the insoluble sulphonamides with or without streptomycin or aureomycin (Dearing and Heilman, 1950) has almost revolutionized colonic surgery, and in the absence of obstruction and infection has practically abolished the need for such defunctioning colostomies prior to colonic resections and



anastomoses. Similarly, such colostomies now have little or no place prior to uretero-sigmoid anastomoses. The oral administration of these drugs reduces the numbers of viable organisms in the bowel to the same extent as will pouring suspensions of them down the distal loop of a colostomy.

Impairment of the blood supply is the most frequent cause of leakage at intestinal anastomoses and of fistula formation in association with colostomies and ileostomies, and likewise leakage from a uretero-sigmoid anastomosis is most often due to interference with the blood supply. During that operation, no matter what method of anastomosis is adopted, the blood supply to the ureter and to the bowel must be maintained and tight suturing and kinking avoided.

The construction of a valve of such perfection that it will allow urine to pass unimpeded into the bowel and at the same time will prevent the entry of infection into the ureter must surely be possible only if the valve is protected or activated by its own muscle. On the other hand, an attempt to form a valve which is less perfect and which results in narrowing of the ureteric orifice may prevent the ascent of faeces up the ureter, but it could not be expected to prevent the entry of infecting organisms. These would then flourish under the conditions of stasis and parenchymal damage to the kidney. A uretero-sigmoid anastomosis that is so open that faeces readily pass into the lower end of the ureter is undoubtedly to be preferred to an anastomosis which results in urinary stasis, as long as the faeces, organisms and urine just as readily pass out again. The report of a case (Whisenand and Moore, 1951) in which direct uretero-sigmoid anastomoses were followed by nephrostomies which then discharged faeces did not show that such regurgitation has a deleterious effect on the kidney or that it occurs in the absence of a nephrostomy.

Nesbit (1949) and Cordonnier (1950) have revived "direct" uretero-sigmoid anastomoses, and although many good results have been obtained by Coffey's techniques (Brown, 1950) it would seem that within limits the larger the stoma the less the ascending infection. It is interesting to note that Marshall and Gardner (1945) reported the case of a patient who lived more than forty-four years after a uretero-sigmoid anastomosis, and at autopsy it was not possible to demonstrate any valve action at the anastomosis. In this regard there is also the point that a simple technique for implantation should be used at the end of a lengthy radical operation, and Brunschwig (1950) has reported good results when the ureters were inserted into the colon through stab wounds and the site of the anastomosis was covered with a flap of peritoneum.

Although the skin around a wet colostomy is less likely to become excoriated than is that around an ileostomy, an adherent type of bag greatly adds to the patient's comfort. In fact, a patient will tolerate a wet colostomy, as Pierce has pointed out, only if such a satisfactory appliance is available and if it is easily managed. These bags are easily removed with a small quantity of benzene, and while they are used there should be no accidents.

The Pierce bag for use with a wet colostomy has been developed from the Koenig-Rutzen ileostomy bag and the Salt modification of it. These bags are made to adhere to the skin by the use of a "Latex" solution. Excoriation is thereby prevented or greatly reduced, and the patient then finds the ileostomy or wet colostomy less of a burden. The face piece on the bags is about three and a half inches in diameter, and the aperture in it is cut to fit accurately around the colostomy or ileostomy bud. The "Latex" solution costs about two shillings for a tube which lasts a week, and it is to be remembered that it is highly inflammable. These bags may be applied within a few days of the operation, as soon as the bowel has become adherent to the abdominal wall, even if the rest of the wound has not quite healed. If excoriation has developed, the skin should be painted with tincture of benzoin and dried before the "Latex" solution is applied. If, despite this, skin infection becomes established, the wound should be exposed to sunlight or ultra-violet light. If infection still persists,

postural drainage is indicated so that the bowel contents fall directly into a container. Unfortunately, such patients are rarely able to tolerate many hours in the prone position.

Some patients with an ordinary colostomy use similar adherent bags at night, since there is then little chance of displacing the colostomy cover when turning over in bed.

For cutaneous ureterostomies an adherent type of bag has also been devised, the adhesive used being the same as that for the adhesive types of colostomy and ileostomy bags (Trafton and Kaufman, 1947).

Fish and Stevenson (1949) have described what they term a "pedicle graft cutaneous ureterostomy", in which each ureter opened on to the summit of an abdominal flap of skin and subcutaneous tissue. The fitting of a ureterostomy cup was thus facilitated. A similar arrangement for a wet colostomy would have many advantages, but a rather large flap would be necessary and there would be the technical difficulties of bringing the bowel through the pedicle without jeopardizing the blood supply of either. However, such a "penile" type of colostomy would be advantageous once it was established; but a modification of the colostomy bag would, of course, be required. Even if it is not supported by a pedicle graft, a wet colostomy should be made to protrude. This permits the easier fitting of an adherent bag, and it is doubtful whether mucosa-to-skin apposition results in any less narrowing of the skin opening.

In a discussion on uretero-sigmoid anastomosis the methods of using an isolated segment of colon with implanted ureters for refashioning the urinary bladder after total cystectomy, which have been described by Rubin (1948), by Bisgard and Kerr (1949), and by Gilchrist *et alii* (1950), should be mentioned, but they are still in the experimental stage.

#### Conclusion.

Ureteric transplantation has only a small place in rectal surgery at present. Nevertheless, in the future this may be increased, with the attempted salvage of more patients by the operation of "pelvic clearance" and with the more frequent resection of the involved base of the bladder or ureter in cases of carcinoma of the rectum which formerly was deemed to be inoperable. The introduction of the Pierce adherent bag has made a "wet colostomy" no more fearsome than an ileostomy.

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## WILLIAM THOMSON AND THE HISTORY OF THE CONTAGIONIST DOCTRINE IN MELBOURNE.<sup>1</sup>

By BRYAN GANDEVIA,  
Melbourne.

With a Bibliography of the Separately Published Works of William Thomson, F.R.C.S. (Edinburgh),  
By Edward Ford, Sydney.

*Cerimon*: I can speak of the disturbances  
That nature works, and of her cures.

*Pericles*, Act III, Scene 2.<sup>2</sup>

DR. HENRY SIGERIST, in a delightful introduction to his "History of Medicine", remarks that "until about a hundred years ago the history of medicine was primarily medicine", the current theory and practice of medicine itself. Therein lie the particular significance and peculiar interest of the study of the history of Australian medicine, which is little more than half a century older than this arbitrary time limit specifies. Colonial medicine, despite its own trends, enthusiasms and antagonisms, reflects world medical practice, modified distinctively, and often colourfully, by local environmental factors. At the same time, the study of a relatively narrow sphere makes possible a more detailed appreciation of the introduction and influence of new concepts of disease and new methods of treatment. In this way many interesting aspects of the progress of medicine may be revealed which would remain hidden in a broader study of world medical development. In addition, as Sigerist points out, the history of disease, not only in time but in space (that is, geographically), urgently requires further investigation, and in this regard the Australian field, although admirably suited, lies almost unexplored.

The present address is a brief preliminary survey of the introduction to Australia of the contagionist doctrine and the germ theory of disease, but for the present we shall confine ourselves chiefly to the part played in this by one man—William Thomson, F.R.C.S. (Edinburgh) (Figure 1). Except by bibliographers, who have every reason to remember it, the name has been almost forgotten, and we will therefore give some consideration to his life story. By coincidence, it is almost exactly a hundred years since Thomson arrived in Melbourne, on September 17, 1852.

Thomson was born at Paisley, a suburb of Glasgow, in 1819 or early 1820. No definite information is available concerning his family or his early life. He received his medical education at the Andersonian School of Medicine and the University, Glasgow, but he became a member of the Royal College of Surgeons of Edinburgh in 1843. He appears to have been a gifted scholar, to judge by the testimonials he submitted subsequently in support of his unsuccessful application for the post of lecturer in forensic medicine at the University of Melbourne. For an uncertain period during the next ten years he worked with Dr. Robert

Perry and Dr. A. P. Stewart, of Glasgow, who by this time had distinguished between typhus and typhoid fevers. The interest in fever awakened here stayed with Thomson throughout his life.

On September 17, 1852, Thomson arrived in Port Phillip Bay as ship's surgeon to the emigrant ship *Wanata*, only to find his ship one of the first to be quarantined—off St. Kilda. Relating the story of the eventful voyage some twenty-five years later, Thomson remarked that pratique was not granted because of an epidemic of whooping cough on board, although a concomitant outbreak of typhus fever was obviously the more serious menace. However, time precludes further consideration of this important episode in the history of fever in the Colony, although it may be of interest to mention that on her next visit the *Wanata*'s crew mutinied, and she became one of the first "captures" of the Victorian Navy.

Thomson made several subsequent journeys to Australia, and on the last one, probably in 1855, he brought with him a newly-acquired wife from Edinburgh and a "prefabricated" wooden house (since he had been unable to procure carpenters in Melbourne during the recent gold rush). He commenced practice in Prahran, at first in Chapel Street and then in Punt Road, but within a few years he had built a permanent residence at the corner of Walsh Street and Gardiner's Creek (Toorak) Road, almost opposite Christchurch, South Yarra.

It is interesting to refer to the history of Prahran (Cooper, 1924). Gardiner—of Gardiner's Creek—was the first man to take up land south of the Yarra, and he grazed sheep there in 1836. Buckley, the escaped convict, is thought to have roamed the district earlier. A few years prior to Thomson's arrival, the area between Prahran and St. Kilda was described as "trackless forest" in which a man could easily lose his way. In 1850 three aboriginal camps were flourishing in Fawcner Park, opposite Thomson's future home. The park was later described as "a dreary desolate waste", with "a few derelict gum trees", where dairymen grazed their cows. It was also the repository of Melbourne's nightsoil, a practice which Thomson, stimulated by his views on the spread of typhoid fever, was instrumental in abolishing. Some of the trees which flourish in the park today were planted by Thomson's children.

The Chapel Street bridge was opened in 1857, the cutting on the south side being a favourite haunt of thieves and robbers.

Thomson's house was wooden, with brick foundations and extensive cellars, and of typical colonial architectural style. Unfortunately, the only picture in existence is too defaced to reproduce. It was set well back from Toorak Road, but the Walsh Street wall was on the street, and here the surgery entrance was placed. It is remarkable that the façade today is almost exactly as it was nearly a hundred years ago, although the house has been rebuilt and extended since his death. It is thought to have been rebuilt thus in order to preserve the Right of Light, according to an old English law. The cedar staircase is part of the original house. Still present is an iron hitching-post. Thomson chose an area which was fashionable and on high ground away from the marshy parts of the district.

It would be interesting to know what hygiene measures Thomson adopted in his own house to minimize the risk of his family's catching typhoid and other "contagious" diseases. His water supply probably came in barrels from the Yarra Street pump at the river's edge, although a pipeline from the Yan Yean reservoir reached Prahran in 1858. Sewage was disposed of in household cesspits, the pan system being introduced into Prahran some years later. Gas, incidentally, crept out slowly from the city in about 1861.

In 1856, shortly after his arrival, Thomson became involved in the first of many controversies when, with certain of the more wealthy landowners, he unsuccessfully opposed the formation of a municipality of Prahran.

Becoming a member of the Medical Society of Victoria, he contributed a paper on "The Ætiology of Placenta

<sup>1</sup> Read at a meeting of the Section of the History of Medicine, Australasian Medical Congress (British Medical Association), Eighth Session, Melbourne, August 22 to 29, 1952.

<sup>2</sup> Thomson sometimes adopted the nom-de-plume of "Cerimon". Those familiar with the play will appreciate the vanity of this, a vanity so extreme as to suggest an impish humour.

Prævia" and a case report dealing with the surgical treatment of hernia in a baby. From 1859 to 1861 he was editor of the Society's *Australian Medical Journal*. In 1864 a serious difference of opinion with the Society arose. Not only did this adversely affect the style and presentation of Thomson's later publications, but it undoubtedly reduced the influence which his advanced views might otherwise have commanded. After the publication in a rival medical journal (*The Medical and Surgical Review*) of a critical report of a recent stormy and bitter debate at the Medical Society, a move was made to expel Thomson, as the alleged author. Although Thomson had previously indicated, at the meeting referred to, his intention of resigning forth-

period he wrote a book and several pamphlets in which he claimed to demonstrate that Shakespeare's plays were written by Bacon.

He was intensely interested in diseases of animals, which produced the accompanying cartoon (Figure II). In one paper ("The Analogy of Epizootic Pleuropneumonia to Epidemic Measles") he drew attention to the similarity of the two diseases and suggested that they were identical. This was ingenious though incorrect, but the principle is sound (King, 1952).

Thomson died in May, 1883, after an illness of nine months' duration which commenced after a struggle with a mentally deranged patient. Characteristically, he refused medical attention until three days after an "abscess on the liver" had broken. Then only did he submit himself to the care of Dr. Robertson (lecturer in medicine at the university), Thomas Nagten Fitzgerald (a most dexterous



FIGURE I.

William Thomson, F.R.C.S. (Edinburgh), F.L.S. (From a picture in the possession of his descendants.)

with, a notice paper containing the motion for his expulsion was sent to him. He returned it with "Audacity" and "Blackguards" written across it. Had it not been for this crowning insult, the motion might have failed, as Thomson commanded considerable support. It is difficult to judge the merits and demerits of the case at this stage, for there is no doubt that personal feeling and local medical politics far outweighed in importance the original point at issue. The affair reflects little credit on either side, but it is of supreme significance in assessing the reception of Thomson's subsequent work. It also illustrates an unfortunate aspect of Thomson's character—his resentment of criticism, which he was too apt to regard as a personal attack. Incidentally, some years later a move to reinstate him failed, although fifteen votes to seven were recorded in his favour.

Between 1870 and 1883 Thomson published a large amount of work dealing with typhoid fever, phthisis and diphtheria, all of which was designed to show the importance of contagion as a mode of spread. During the same



BILLY T.—CURING JOHN THOMAS SMITH'S MOPE OF SUB-CAUDAL PLEURO-PNEUMONIA, BY THE APPLICATION OF A HOT SHOVEL.

FIGURE II.

Thomson did not favour this method of treatment. (From *The Melbourne Medical Record*, 1877.)

surgeon and his friend) and Mr. Lempriere. Even then it was hoped he might recover, but "prolonged sickness had so weakened his condition that a reaction was impossible", and he died a week later.

Although he was kind and generous to his numerous patients and to his family, contemporary records indicate that William Thomson was a small man with a quick temper, intolerant of criticism and probably possessed of a certain intellectual arrogance. However, his professional ability was highly regarded, and after his death it was admitted on most sides that had it not been for his fiery personality and love of controversy his work might have received greater recognition. As it was, his reputation as an epidemiologist and pathologist (and Baconist) was perhaps higher in Europe than in Australia. However, this aspect requires further investigation.

#### The Contagionist Doctrine.

The meaning of a word can change remarkably over a short period, and this is particularly apparent with regard to the word "contagion". Not only is there a variation in precise meaning with time and with different authors, but the whole concept of contagion is found to change according to the prevailing views on ætiology. In a more elaborate review it would be essential to examine these changes



fully, but for our present purpose we can merely illustrate this as we briefly outline the history of the contagionist doctrine.

Even a magico-religious concept of disease allowed certain primitive tribes to appreciate the significance of contagion, as shown by their isolation, abandonment or killing of the sick, and the burning of their houses and belongings (Sigerist, 1951). According to Francis Adams (1844), intelligent Græco-Roman medical opinion held that certain diseases were spread by contamination of the air by non-specific putrid effluvia, but that there was no transmission from case to case of any specific virus elaborated

scarlet fevers contracted through emanations from the neglected cesspit.

Further confusion was produced by the introduction of the germ theory of disease before the science of bacteriology was sufficiently advanced to clarify the position. While the question of spontaneous generation remained unanswered the theory could not provide any sounder rationale for the control of disease. Thus it becomes easy, at first glance, to misinterpret statements such as those made by a leading Melbourne surgeon, Mr. T. M. Girdlestone, in a lecture to the Australian Health Society in 1876, entitled "Under the Floor":

CONTAGION  
ALONE THE CAUSE  
OF  
TYPHOID FEVER

IN MELBOURNE

BY

WILLIAM THOMSON, F.R.C.S., F.L.S.

"O, be sick, great greatness,  
And bid thy ceremony give thee cure!  
Think't thou the fiery fever will go out  
With titles blown from adulation?"

MELBOURNE  
STILLWELL AND CO.  
MDCCCLXXX

FIGURE III.

A later pamphlet (1880), the title of which leaves no doubt as to the author's views.

within the patient. The oft-quoted views of Fracastorius constituted no great advance and, in fact, we find the same concept widely held in Thomson's time.

If rigidly and uniformly applied, humoral pathology and the idea of disease diatheses exclude contagion, but its importance was too obvious to any observer for it to be discarded, especially in the case of diseases such as syphilis, plague and smallpox. "If we suffer . . . this contagious sickness", said King Henry VIII's Lord Chancellor, speaking figuratively of heresy, "Farewell all physis" (Act V, Scene 2).

In the last century, effluvia from drains and privies were blamed for typhoid and scarlet fevers, diphtheria and phthisis, and these were referred to as "sources of contagion". A definite change in meaning is immediately apparent. "A Bad Smell" was the title of a harrowing essay by a master of arts, dealing with the tragedy of a Melbourne couple whose five children died of typhoid and

THE  
HISTOCHEMISTRY  
AND  
PATHOGENY OF TUBERCLE

BY

WILLIAM THOMSON F.R.C.S. EDIN.

MELBOURNE  
STILLWELL & KNIGHT 78 COLLINS STREET EAST  
1876

FIGURE IV.

In this pamphlet Thomson outlined the role of micrococci in the pathology of tuberculosis. Published six years before the bacillus was demonstrated by Koch, it is perhaps Thomson's most valuable contribution to medical literature.

Such ground (wet ground containing fermenting organic material "under the floor") is almost sure to exhale the "germs" of disease, or in other words to contain organic matter which slowly decays and gives off the poison which produces disease. The term "germs of disease" is a convenient figure of speech, but it is not intended to convey thereby that these ideal germs have ever yet been seen. The germ theory itself is not proven . . . and not unlikely before long to be superseded by something more tenable.

Here only the detailed explanation removes the ambiguity to a modern reader.

Another unsolved problem—the specificity or otherwise of disease and disease-producing agents—further clouded the contagion issue. For example, Semmelweiss maintained

that puerperal sepsis was not strictly contagious because it could be produced by discharges from a number of different unrelated lesions (Neuberger, 1943).

Sufficient has been said to illustrate the confusion which existed in regard to the term "contagion" and the concept it was intended to convey. In considering the literature of the period under discussion we must bear this confusion in mind, and at the same time we must try to appreciate the tremendous revolution in thought which acknowledgement of pathogenic microbes required of physicians, philosophers and priests—and the ordinary man.

Against this all too sketchy background we shall attempt to focus William Thomson's contributions to the aetiology and prevention of contagious diseases. We shall confine ourselves to typhoid fever, in which the problem of contagion is of major interest, and to phthisis, in which attention will be directed mainly to the role of germs in its production. At the time, of course, both factors were argued in relation to both diseases.

#### Typhoid Fever and Contagion.

One Melbourne opinion (Girdlestone's) on the aetiology and spread of typhoid fever has already been quoted. On the other hand, full credit must be given to Dr. James Robertson (physician to Thomson in his last illness), who noted the contagious nature of typhoid fever and the possible role of germs in producing certain diseases in his lectures to students in 1865. Such views were not generally held (Cumpston, 1927; Barrett, 1930).

In 1874, Thomson published the results of his investigation, undertaken at the request of the Central Board of Health, into the cause and extent of typhoid fever in Melbourne ("On Typhoid Fever"). When the Board rejected certain of its conclusions, Thomson incorporated some criticism of the Board's attitude and published it at his own expense. Keen interest was taken in the controversy by the daily Press and the public. The local medical journals, *The Lancet* and the Medical Society added their opinions and comments, both pertinent and personal. As Thomson lost no opportunity to reply to criticism, real or imagined, the literature on the subject grew rapidly over the next few years. *Inter alia*, Thomson published "Typhoid Fever, Its Cause and Extent in Melbourne" (1878), "Contagion Alone the Cause of Typhoid Fever in Melbourne" (1880) (Figure III), and "*Lancet*" and "*Argus*" on Typhoid Fever in Melbourne" (1882).

Among the points made by Thomson which are relevant to the present theme were the following: (i) General medical opinion in Melbourne is "non-contagionist". (ii) The disease may be spread by ambulant patients. (iii) It may also be spread by contamination, and minor outbreaks are traced to this cause. (iv) There is no evidence whatsoever for spontaneous generation (in contradistinction to the views of the Central Board of Health). (v) Disinfection of faeces and fomites is the most vital measure in the control of spread. (vi) Germs are likely to be the "specific contagium", although there are other possibilities. (By 1883 the bacillus had been seen by Eberth, and Thomson mentioned this in his later work.)

These views were in accord with those of Dr. Budd, an eminent British authority on fever, but differed from those of Dr. Murchison, also noted for his work on fever. The latter, while not denying the possibility of direct spread from the sick to the healthy in some instances, was a non-contagionist. He attached more importance to effluvia from decaying organic matter and decomposing faeces. The outstanding practical question at issue as a result of these opposing theories was that of the provision of efficient sewage and drainage. If Murchison was right, this was an urgent need; if the contagionists were correct, disinfection of the "alvine dejections" and fomites was indicated. Thomson was blamed for delaying development of adequate sewage, despite the fact that he advocated its improvement on general grounds.

Other aspects of Thomson's work enhance its significance, and we may mention his distinction between typhoid fever and typhus, his critical analysis of available vital statistics,

and his attempt to correlate the results with meteorological data. Although some errors were inevitable (for example, his failure to recognize the existence of the symptomless carrier, so that his "contagious" explanation of some outbreaks was not convincing), the soundness of the work is marred only by the introduction of irrelevant issues, which merely served to foster opposition.

We can follow the controversy no further, although it raged vigorously and often bitterly for a decade. Still no conclusion was reached:

Every man seems to have his theory—hardly any two persons are agreed—regarding the conditions favouring its production. (*Australian Medical Gazette*, April, 1883.)

Harry Brooks Allen played a notable part in clarifying the position in Australia.

#### Phthisis and the Germ Theory.

In 1864 Thomson reprinted from *The Medical and Surgical Review* a critical review of S. Dougan Bird's recent work on phthisis in Australia. In this and a later series of publications (commencing in 1870 with "On Phthisis and the Supposed Influence of Climate") he claimed that the Australian climate did not have a favourable influence on the course of the disease (as Bird, himself a sufferer, had maintained, in conformity with the prevailing view here and in England). He stated that phthisis was contagious and that contagion was responsible for an increase of the disease in Victoria. Similarly, it was killing off the natives.

Once again a lively controversy ensued, but we must neglect it to consider Thomson's outline of the relationship of germs to tuberculosis. He first gave this detailed attention in "The Histopathogeny and Chemistry of Tubercle" in 1876 (Figure IV). After describing the work of others on the early stages of formation of a tubercle, he postulated the existence of a living microorganism in its centre as the cause. He proceeded to explain the chemical processes by which a germ could produce these effects, and he outlined the chemistry of caseation. He also pointed out how erosion of a vessel could produce blood spread. Elaboration of the specific virus might take place in the intestine, and by spread to related glands produce mesenteric tuberculosis. Contagion occurred by inhalation of dust contaminated by dried sputum. Finally, he considered therapy in these words:

While it is but a truism to affirm that the healing art can never restore lung structure, so does it seem premature to assert the improbability of ever finding means of killing parasitic particles in living tissue without at the same time destroying its own integrity.

He advocated experimental work on germicidal agents, and stated his opinion of the value of boroglyceride inhalations.

Time has permitted us only to examine Thomson's work in isolation from that of his contemporaries, which may be a source of fallacy. However, we may note that he did not claim originality for all the previous statements, and he quotes many authorities. It is important to note that he was aware of Villemin's production of tuberculosis in a rabbit by inoculation with material from a human case, a classical experiment first reported in 1868. The significance of Thomson's contribution lies in his unequivocal statement of the cause, upon which he based (i) a chemical explanation of its mode of action; (ii) an explanation of the natural history and pathology of the disease; (iii) a rational plan for its control and treatment.

Despite its deficiencies, his concept indicates remarkable vision and ability to formulate a logical hypothesis based on the known facts.

Where possible he supported his arguments by reference to his own researches in the epidemiology of the disease in Victoria, but unfortunately there is no evidence that he performed any experimental work. He claimed that he sought a position as pathologist at the Melbourne Hospital solely to demonstrate the bacillus, but that this was

denied him for reasons "needless to dwell on". I can find no reference to this matter in the Hospital Committee minutes.

When Koch demonstrated the tubercle bacillus in 1882, Thomson was jubilant, especially as his work had not been received favourably in Victoria. He promptly published "The Germ Origin of Tubercle", in which he pointed out the significance of his own work and his grounds for claiming priority on certain aspects. He felt that his pamphlet—sent to many German libraries and research workers—may well have stimulated Koch in his research. "Wherefore", he said, "I fairly claim to have solved the problem of the parasitic cause of tubercle." Again, "Moreover, I then explained the mode of action of the parasite, beyond which no one has yet gone; if indeed we are able to exceed an explanation which is already perfect."

With these two quotations we have exposed Thomson's weakness—his unbounded egotism—and the reason for the failure of the prophet to be honoured in his own country.

### Epilogue.

In his book "On Typhoid Fever", Thomson quoted John Morley on the subject of compromise:

In the positive endeavour to realize an opinion, to convert a theory into practice, it may be, and very often is, expedient to defer to the prejudices of the majority, to move very slowly, to bow to the condition of the *status quo*, to practise the very utmost sobriety, self-restraint and conciliation.

It is indeed lucky for our self-esteem that we are so oblivious of our own shortcomings. Had Thomson heeded the advice he quoted, I have no doubt his name would be more familiar today.

### Acknowledgements.

I gratefully acknowledge the invaluable assistance that Dr. J. H. L. Cumpston's letters and Professor E. Ford's bibliographical notes have been in my research into Thomson's life and times. For much personal information concerning him I am indebted to his grandchildren; his eldest son, Dr. Matthew Barclay Thomson, died only a few years ago. The help of those to whom I have written, both in Australia and in England, has been most generous, and I hope that the material so collected, too detailed for this review, will be recorded on another occasion. I would also express my thanks to Mrs. A. Donner, of the Medical Society of Victoria library, and to Mr. R. Inglis, who prepared the illustrations.

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### A Bibliography of the Separately Published Works of William Thomson, F.R.C.S. (Edin.).<sup>1</sup> (Edward Ford.)

- Testimonials | in Favour of | Mr. W. Thomson, | South Yarra. 13-5 x 20-4. Pp. 12. N.D. Colophon—Melbourne: Stillwell and Knight, Printers, Collins Street East.  
 The Public Library of Victoria copy bears MS. note: "Candidate for Lectureship on Materia Medica."  
 Not Man, But Man-Like. | A Reply | to | "Not Like Man" of Professor of Anatomy in | the University of Melbourne. | By | Wil. Thomson. 13 x 21. Pp. 32 (last blank). Frontispiece. N.D. Severely criticizes Professor G. B. Halford's anti-evolutionary pamphlet "Not Like Man" (1863).

<sup>1</sup>The vertical lines subdividing the titles indicate the subdivision into lines on the original title page. Measurements are in centimetres. N.D. = no date.

The Development of the Question. | [Text commences.]

13 x 20-8. Pp. 4. N.D.  
 Reprint of letter to *The Argus*, signed "Opifer", which criticizes evidence quoted by Professor Halford in an attack on Huxley's views on evolution.

The Gorilla on its Last Legs. | [Text commences.]

13 x 20-8. Pp. 4. N.D.  
 Reprint of letter to *The Argus*, signed "Opifer", on the evolution controversy.

The Transversalis Pedis | in the | Foot of the Gorilla., | By | Wil. Thomson.

13 x 21. Pp. 18 (last blank). Pale blue papers with title reprinted on front. Reprinted from *Aust. Med. J.*, 1864. Supports Huxley in the evolution controversy.

Consumption in Australia: | A Review. | By | W. Thomson. | Reprinted from the "Medical and Surgical Review".

13-5 x 21-6. Pp. 32. Colophon—Fergusson and Moore, Printers, Flinders Lane East, Melbourne. N.D. (1864). Pale lemon paper wrappers, with title reprinted on front.

A revised and extended version of the author's unfavourable review of S. Dougan Bird's "On Australian Climates and Their Influence in the Prevention and Arrest of Pulmonary Consumption" (1863).

On Phthisis | and the | Supposed Influence of Climate | Being an | Analysis of Statistics of Consumption in this | part of Australia | With Remarks on the Causes of | the Increase of that Disease in Melbourne. | By | William Thomson, L.R.C.S. Edin. | Melbourne: | Stillwell & Knight, 78 Collins Street East. | 1870.

13-7 x 22. Pp. 160. One folding map of "The Medical Topography of the Swamps of Melbourne and Suburbs". Purplish brown cloth boards.

Another edition, 1879. Pp. [xii], 124 (last blank). No map. The following reviews of the book were republished by the author:

(a) "Review on Phthisis. . . Melbourne, by William Thomson . . .". 21-4 x 27-8. Pp. iv. From *Aust. Med. Gazette*. Colophon—Clarson, Massina and Co. N.D.

(b) "From the *Daily Telegraph*, April 3rd, 1871. Review of *On Phthisis and the Supposed Influence of Climate*." 22-9 x 30. Single sheet, verso blank.

A | Consumptive Voyage | to the | Medical Society. | Melbourne: | Fergusson & Moore, Printers, 48 Flinders Lane East. | MDCCCLXX.

8vo. Pp. 16 (last blank).  
 Digest of the Return | Ordered by the Legislative Council | of All | the Deaths (2143) from Phthisis | in Melbourne and Suburbs, | During the years 1865-1869, and first half of 1870, | Forming A Sequel to the Essay on Phthisis, | Etc. Etc. | By | William Thomson, L.R.C.S. Edin. | Melbourne: Stillwell & Knight, 78 Collins Street East, | 1871.

13-9 x 22. Pp. [iv], 42. Stiff pink paper wrappers with title reprinted on front. Sometimes bound with "On Phthisis and the Supposed Influence of Climate" (1870).

Contains further statistics in support of the thesis of his "On Phthisis and the Supposed Influence of Climate", that phthisis was highly prevalent in Victoria.

The following reviews of this work were reprinted by the author:

(a) "Review. Digest of the Return Ordered . . . (Extract from the 'Medical Gazette')." 21-5 x 27-4. Pp. 8 (last blank). Clarson, Massina and Co., Melbourne.

(b) "Extract from 'Daily Telegraph', March 3rd, 1871." (Text begins.) 18-2 x 25-4. Single sheet, verso blank.

Remarks | on the | Introduction of Diphtheria | into Victoria. | By William Thomson, F.R.C.S. Ed. | [Quotation.] | Melbourne: Stillwell and Knight, Publishers, | 1872.

13-4 x 20-6. Pp. 28. From the *Australian Medical Journal*, July, 1872.

On | Typhoid Fever | By | William Thomson, F.R.C.S. | Author of "Phthisis, and the Supposed Influence of Climate | in Australia." Etc. | Melbourne | George Robertson | MDCCCLXXIX.

17 x 25-8. Pp. [vi], 7-214, [ii]. Errata slip. Purple cloth boards.

Second edition: title as above, with additional 3 pp. of text. Pp. [vi], 7-218 (last blank), [ii] (last blank). Errata slip. Reddish-brown cloth boards. Though title is dated 1874, the added text contains a circular of the Central Board of Health, dated January 20, 1875.

Third edition (1878) bears following title:

Typhoid Fever | Its Cause and Extent in Melbourne | Based on | the Report of an Inquiry made by Special Request of | the Central Board of Health and Presented | to Both Houses of Parliament by | His Excellency's Command. | By | William Thomson, F.R.C.S. | Author of "Phthisis, and the Supposed Influence of Climate in Australia", Etc. | Third Edition, Revised | [Quotation.] | George Robertson | Melbourne, Sydney, and Adelaide | 1878.

14-3 x 21-8. Pp. [xxxvii], 348 (last blank). Frontispiece (graph), one folding table, two figures. Brown cloth boards.

On the Analogy of | Epidemic Pleuro-Pneumonia | to Epidemic Measles. | By | W. Thomson, F.R.C.S. Edin. | Melbourne: Stillwell and Knight, Printers. | 1874.

14-9 x 22-4. Pp. 40.



- Mr. Thomson's Work. | From "The Argus" of February 6, 1875. | [Text commences.]  
15-4 x 24. Single leaf, verso blank. Signed, Henry Plow Kane. Corrects a statement of a reviewer of Thomson's "Typhoid Fever".
- A | Third Analysis | of the | Statistics of Phthisis | in Victoria | By William Thomson F.R.C.S. Edin. | [Quotation.] | Melbourne: | Stillwell & Knight, 78 Collins Street East | 1877.  
13-4 x 21. Pp. [iv], 58 (last blank). Half title: "Statistics of Phthisis in Victoria".
- A | Third Analysis | of the | Statistics of Phthisis | in Victoria | Completing the Series | to Which Are Prefixed | Remarks on one of the Modern Modes of | Medical Treatment | By | William Thomson F.R.C.S. Edin. | [Quotation.] | Melbourne: | Stillwell & Knight 78 Collins Street East | 1876.  
13-4 x 21. Pp. [viii], ix-xii, 96.  
Contains: "On Phthisis and One of Its Modern Modes of Treatment"; "The Prevalence of Phthisis in Victoria"; "The Influence of Season"; "Is Diagnosis to be Trusted?"; "Is Phthisis Indigenous or Imported?".
- The | Histochemistry | and | Pathogeny of Tubercle | By | William Thomson F.R.C.S. Edin. | Melbourne: | Stillwell & Knight 78 Collins Street East | 1876.  
13-4 x 21. Pp. 54, [2] (last blank). (Figure IV.)  
Published before Koch's presentation of the tubercle bacillus (1882) and the subsequent clarification of the pathology of tuberculosis.
- On | Phthisis | and the | Supposed Influence of Climate | being a | Fourth Fasciculus of Statistics of Consumption | in this part of Australia | Shewing the | steady increase of that disease in Melbourne. | By | William Thomson, F.R.C.S. Edin. | Melbourne: | Stillwell & Knight, 78 Collins Street East. | 1877.  
13-4 x 21. Pp. 123.
- Specimen for Subscribers | The | Political Purpose | of the | Renaissance Drama | The Key to | the Argument | By | Cerimon | George Robertson | Melbourne, Sydney, and Adelaide | 1878.  
14-2 x 22. Pp. xii, 58 (last blank). Purplish brown boards.
- Remarks | on | A Review of the Report | on the | Cause & Extent of Typhoid Fever | in | Melbourne | By | William Thomson F.R.C.S. | [Quotation.] | George Robertson | Melbourne, Sydney and Adelaide | 1879.  
14-3 x 21-8. Pp. 80. Buff paper wrappers with title reprinted on front, quotations on back; or bound with "Typhoid Fever, Its Cause and Extent in Melbourne", third edition (1878), brown cloth boards.  
Attacks an *Argus* review of his "Typhoid Fever . . ." (1878), and amplifies his arguments.  
The following variations of this pamphlet, which illustrate the intense publishing methods of the author, have been seen:  
(a) Pp. 80.  
(b) Pp. 80, [ii], appending letter from William Johnson, Government Analytical Chemist.  
(c) Pp. 80, [ii], [viii], adding "Typhoid Fever in Melbourne in 1878" to above.  
The latter also appears separately.
- Typhoid Fever in Melbourne | in 1878. | [Text commences.]  
13-6 x 20-8. Pp. viii. Colophon—Stillwell and Co., Printers, Collins Street East. N.D. (? 1879).  
Issued separately, or as an addendum to "Remarks on a Review of the Report . . ." (1879).
- Excerpts from | The Abolition of | Zymotic Diseases | and of Other Similar Enemies of Mankind. | By | Sir Thomas Watson, Bart., M.D., F.R.S. | London: | C. Kegan Paul & Co., 1, Paternoster Square. | 1879.  
13-4 x 20-8. Pp. 12. Colophon—Printed for Private Circulation, by Stillwell and Co., Melbourne.
- A Ten Years' Retrospect | of | Phthisis in Victoria. | [Text commences.]  
14-7 x 22-4. Pp. 24 (last blank). No title page. N.D. Signed, William Thomson F.R.C.S. Colophon—Stillwell and Co., Printers, Collins Street East.
- Contagion | Alone the Cause | of | Typhoid Fever | in Melbourne. | By | William Thomson, F.R.C.S., F.L.S. | [Quotation.] | Melbourne | Stillwell and Co. | MDCCCLXXX.  
14-8 x 22-8. Pp. 22, [ii] (book notice, verso blank). Grey paper wrappers with title reprinted on front. (Figure III.)
- On | Renaissance Drama | or | History Made Visible | By | William Thomson, F.R.C.S., F.L.S. | [Quotation.] | Melbourne: | Sands & McDougall, Collins Street West. | 1880.  
14-2 x 22. Pp. [viii], 360 (last blank).
- William Shakespeare | In | Romance and Reality | By | William Thomson | [Quotation.] | Melbourne: Sands & McDougall | 1881.  
14-2 x 22. Pp. 96.
- Audi alteram partem | Bacon, Not Shakespeare | By W. T. | In Rejoinder to the Shakespeare, Not Bacon | By J. S. | [Motto.] | Melbourne: Sands & McDougall | 1881.  
14-2 x 22. Pp. [ii] (verso blank), 16. Buff paper wrappers with above title on front.  
Another edition, 1881 (pp. 12, 4), has variation in last four pages of notes.
- Bacon and Shakespeare | on | Vivisection | In Reply to Dean Plumptre | Controversies in religion hinder the progress of science | Melbourne: | Sands & McDougall | 1881.  
13-7 x 22-3. Pp. [ii], 1-3, [ii], 4-40 (last blank). Fawn paper wrappers with title reprinted on front.
- The Germ Origin | of Tubercle | Illustrated from the History of Phthisis | in Victoria | By | William Thomson, F.R.C.S. | Melbourne: Stillwell and Co. | 1882.  
14-2 x 22-1. Pp. [iv], 132. Grey paper wrappers with title reprinted on front.
- The | Germ Theory of Disease | Applied to Eradicate Phthisis from Victoria | By | William Thomson, F.R.C.S. | [Quotation.] | Melbourne: Sands & McDougall | 1882.  
14 x 21-8. Pp. 80 (last 3 blank). Half title: "Germ Theory of Phthisis". Yellow paper wrappers with title reprinted on front.
- The | Germ Theory of Phthisis | Verified | and Illustrated by the Increase of Phthisis in Victoria | By | William Thomson, F.R.C.S. | [Quotation.] | Melbourne: Sands & McDougall | 1882.  
13-9 x 22-6. Pp. 96. Blue-grey paper wrappers with title reprinted on front.  
This book is similar in content to "The Germ Origin of Tubercle Illustrated from the History of Phthisis in Victoria", published the same year, and may be regarded as an earlier edition of this. The text is rearranged and varied, but there is extensive literal repetition.
- For Private Circulation. | [The Journal of Science: London, December, 1882.] | The Germ Theory and Its | Latest Conquest. | [Text commences.]  
13-3 x 21. Pp. 16.  
Reprints a review of "The Germ Theory of Phthisis Verified . . ." (1882), which gives priority to Thomson for his thesis on the bacterial origin of tuberculosis, published in "The Histochemistry and Pathogeny of Tuberculosis" (1876).
- The "Lancet" & The "Argus" | on | Typhoid Fever in Melbourne. | By | William Thomson, F.R.C.S. | [Quotation.] | Melbourne: | Sands & McDougall | 1882.  
15 x 22-3. Pp. 32. Fawn paper wrappers with title repeated on front, Press notices inside back cover.  
Another edition, enlarged, with title as above. Pp. 52. Buff paper wrappers, title repeated on front, Press notices on recto of back cover.  
A further edition appeared in the same year under title: "Typhoid Fever in Melbourne".
- Typhoid Fever in Melbourne | By | William Thomson, F.R.C.S. | [Quotation.] | Melbourne: Sands & McDougall | 1882.  
14 x 22-8. Pp. 32. Yellow paper wrappers with title reprinted on front, Press notices inside back cover.  
A further edition of "The 'Lancet' and The 'Argus'", under different title. Though varied, the text literally follows, especially the enlarged edition, in a large part.
- Typhoid Fever at Whittlesea | Stopped | and the Poisoning of the Yan Yean Reservoir | With All Its Consequences | Prevented. | By William Thomson, F.R.C.S. | [Quotation.] | Melbourne: Sands & McDougall | 1882.  
13-6 x 20-9. Pp. 20.
- A Very "Startling Novelty" in Current Medical Literature. | To the Editor of the Age | [Text commences.]  
20-1 x 28-9. Single sheet, verso blank, double columns. N.D.  
A letter signed "Asclepiades", criticizing local ignorance on the contagiousness of tuberculosis.
- The Political Allegories | in the | Renaissance Drama | of | Francis Bacon | By William Thomson, F.R.C.S. | [Quotation.] | Melbourne: Sands & McDougall | 1882.  
13 x 21-5. Pp. 48 (last two blank). Grey paper wrappers.
- "Figuring in the Newspapers". | [Text commences.]  
13-3 x 20-7. Pp. 8. No imprint. 1883.  
Addressed to the Editor, *Australian Medical Gazette*. Medical criticisms of certain works of the author were among the most vituperative of the time. In this pamphlet he furnishes a strong rejoinder.
- It is only when fell disease knocks at our doors, and that the weekly bills of mortality swell inordinately . . . [Text continues.]  
15 x 23. Pp. 4. N.D.  
Reprints Melbourne *Herald* articles on a typhoid outbreak at Hamilton, which praise Thomson's work.
- A Minute Among the Amenities.  
8vo. Pp. 24. Melbourne, 1883.  
Not seen. This pamphlet was also not seen by P. J. Marks, "Australian Shakespeareana: A Bibliography . . ." (1915), but was listed from the Birmingham Public Library catalogue. Marks states that it is Thomson's last work, and replies to Press criticisms of his books.

# THE PREPARATION AND USE OF CONCENTRATED RED CELLS FOR TRANSFUSION.<sup>1</sup>

By R. J. WALSH,

Red Cross Blood Transfusion Service,  
Sydney.

CIRCULATORY overloading following blood transfusions is more frequent than is usually recognized, and the risk is greatest in anæmic patients, especially if myocardial and vascular degenerative disease is present. It can be minimized by transfusions of concentrated red cells, because these alone are required by the majority of anæmic patients in whom the circulating blood volume is usually within the normal range. Only a relatively small volume of concentrated red cells is required to produce a significant increase in the hæmoglobin value, and because of the viscosity of the cells, the rate of administration is slow. The plasma of the donor can be more profitably used for blood volume restoration and for therapy of hypoproteinaemia. Transfusions of concentrated red cells are therefore advocated to reduce the frequency of circulatory reactions and to conserve supplies of blood.

The details of the preparation and use of 1596 units are described in this report. It has been found convenient to refer to the concentrated red cells derived from the blood of a donor as a unit. A unit varies in volume, hæmoglobin and red cell content according to the hæmoglobin value and red cell count of the donor, but the average volume is 240 millilitres and the average hæmoglobin content 72 grammes.

## Preparation of Concentrated Red Cells.

Two methods have been used for the preparation of concentrated red cells. The first consists of allowing the red cells of citrated blood to form a sediment in the refrigerator for twenty-four to forty-eight hours and then aspirating the supernatant plasma. This method is time-consuming and does not give maximum concentration of red cells. Alternatively, blood is centrifuged at 6° C. before the plasma is aspirated. Low-temperature centrifugation is necessary to prevent hæmolysis, but the method is more efficient and simpler than is the sedimentation principle.

During a period of twenty months, 1596 units have been prepared by the use of an "M.S.E." refrigerated centrifuge. Blood was obtained as required from the general reserve, having been collected in 500 millilitre amounts in standard transfusion bottles each containing 75 millilitres of a modified acid-citrate-dextrose (A.C.D.) solution. It was never more than five days and usually not more than two days old. In the early part of the work bottles were centrifuged for thirty minutes at 2000 revolutions per minute, giving a centrifugal force 1200 times that of gravity. A small percentage of the bottles were broken during centrifugation at this speed, and later the speed was reduced to between 1500 and 1700 revolutions per minute, providing a force approximately 800 times that of gravity. The supernatant plasma has been removed by suction through a gauge 12 needle nine inches long and has been used for the manufacture of serum. The details of this aspiration are shown in Figure I.

It has been shown (Gibson *et alii*, 1947) that packed cells may be stored if A.C.D. preservative solution is added. However, this has been considered inadvisable because it adds to the total volume administered to the patient, because it permits an undesirably rapid rate of administration, and because the risks of bacterial contamination are considerably increased by the necessary manipulations. Consequently concentrated red cells have not been stored as such, and users have been advised to administer them immediately on receipt.

<sup>1</sup> A preliminary report of this work was read before a scientific meeting of the National Blood Transfusion Committee in Sydney on March 6, 1952.

## Hæmoglobin Content of Concentrated Red Cells.

To determine the degree of packing achieved, four bottles were centrifuged at 1700 revolutions per minute for thirty minutes, the supernatant plasma was removed and approximately one millilitre of red cells was removed from the bottom of each bottle with a fine capillary pipette. The contents of the bottles were then mixed and further samples of blood obtained. Hæmatocrit and hæmoglobin estimations were performed on all eight samples with the results shown in Table I. The differences between the two sets of readings are due to the fact that not all the supernatant plasma can be aspirated with the bevel-pointed needle necessary for perforation of the rubber diaphragm. It can, however, be seen that the concentrated red cells as administered contain approximately 30 grammes of hæmoglobin per 100 millilitres, and that the degree of packing is about 87% of that obtainable in the standard hæmatocrit test.

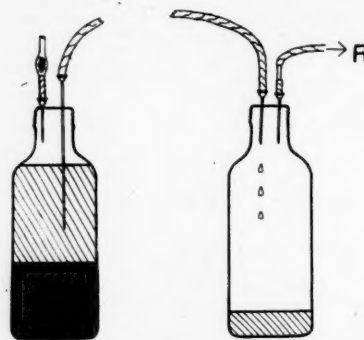


FIGURE I.

Method of aspiration. A = to suction pump.

## The Use of Concentrated Red Cells.

Details of the indications for and the effectiveness of 1596 units have been obtained from medical practitioners who administered the blood by the method previously described (Walsh, 1945). The information supplied was sometimes too meagre to permit definite classification of the type of anæmia or blood dyscrasia from which the

TABLE I.  
Degree of Packing and Hæmoglobin Content of Concentrated Red Cells.

Bottle Number.	Before Shaking Bottle.		After Shaking Bottle.	
	Hæmatocrit.	Hæmoglobin.	Hæmatocrit.	Hæmoglobin.
1	97.0	34.1	87.0	30.0
2	88.0	30.4	84.0	29.6
3	94.0	32.6	88.0	30.4
4	94.0	30.8	87.0	29.6
Mean	93.2	32.0	86.5	29.9

patients were suffering, but the figures shown in Table II indicate the principal conditions for which concentrated red cells were used. Nearly all the patients suffering from hæmorrhagic anæmia had chronic diseases; a large percentage had gastro-intestinal or uterine hæmorrhage. The blood volume of such patients would be little if at all reduced, because the compensatory physiological mechanisms of hæmorrhage include a shift of protein-containing fluid from the interstitial spaces to the circulation. This increases the blood volume and accounts for the low hæmoglobin value. Although the protein content of the added fluid is less than that of plasma, hypoproteinaemia is rarely observed in association with hæmorrhagic anæmia. The hyperkinetic phase of acute hæmorrhage described by Howarth and Sharpey-Schafer (1947) is also best treated with concentrated red cells.

A discussion of the indications for transfusions in the various types of anaemia is beyond the scope of this paper, but with few exceptions concentrated red cells are preferable to citrated whole blood. This preference is particularly important in the therapy of the anaemia of pregnancy, because hydræmia is nearly always present during gestation. An unusual use of concentrated red cells in pregnancy is shown by the following clinical history:

A multiparous patient, aged twenty-seven years, was admitted to the Women's Hospital, Crown Street, when in the thirty-eighth week of her fourth pregnancy. She was extremely pale, had gross oedema, albuminuria and dyspnoea, and was somewhat disorientated mentally. Her hæmoglobin value was 2.6 grammes per 100 millilitres of blood, and examination of a blood film showed that the anaemia was microcytic and hypochromic in nature. It was thought that blood transfusion was urgently required, but that there were grave risks of precipitating cardiac failure. Whilst 1200 millilitres of blood were removed from the vein of one arm,

Patients with anaemia of nephritis have been listed separately, but those with carcinoma of various regions of the body have been included under the heading "anaemia of unknown origin". Many of the latter, as well as the majority of patients suffering from chronic hæmorrhagic anaemia, were transfused whilst being prepared for operation. It may be contended that these patients, particularly those suffering from gastro-intestinal lesions, are often mildly hypoproteinæmic and that they would be benefited by the protein content of plasma. However, it is now well established that tissue protein depletion in hypoproteinæmia is many times greater than is plasma protein depletion, and the small amount of plasma protein in transfused citrated blood would not make a significant contribution to the deficit.

The number of units given to patients as one transfusion is shown in Table III. Only small volumes were administered at the one time to the majority of patients,

TABLE II.  
*The Use of Concentrated Red Cells in Various Disorders.*

	Number of Patients.	Number of Units.
Anæmia—		
Macrocytic .. ..	19	78
Hæmorrhagic .. ..	163	406
Hæmolytic .. ..	18	67
Infection .. ..	55	127
Aplastic .. ..	28	188
Cooley's .. ..	1	18
Leuco-erythroblastic .. ..	4	12
Pregnancy .. ..	13	34
Of unknown origin .. ..	81	199
Leuchæmia .. ..	44	302
Hodgkin's disease .. ..	10	37
Multiple myeloma .. ..	2	6
Purpura .. ..	3	6
Hæmophilia .. ..	3	9
Nephritis .. ..	22	51
Liver dysfunction .. ..	9	30
Sulphæmoglobinæmia .. ..	1	3
Unspecified .. ..	14	23
	490	1596

four units of concentrated red cells totalling 1200 millilitres were transfused into the vein of the other arm. Difficulty was experienced in equalizing the rates of input and output because of the viscosity of the concentrated cells, but this was overcome by milking the rubber tubing of the delivery set with soapy fingers. The exchange was completed in thirty minutes without distress to the patient, and a further two units of concentrated cells were then transfused slowly. The hæmoglobin value eighteen hours later was 8.9 grammes per 100 millilitres. During the exchange the patient's general appearance and mental condition improved rapidly. Labour was induced eighteen hours after completion of the exchange transfusion, and the patient was delivered of a healthy female infant. It is of significance that the hæmoglobin value of the infant at birth was 23.3 grammes per 100 millilitres of blood, a striking example of the ability of the foetus to obtain adequate supplies of iron at the expense of the maternal reserves.

A considerable portion of the total blood was used for the treatment of leuchæmia. In some of these patients acquired hæmolytic anaemia developed during the course of the illness and necessitated frequent administration of blood. Blood volume adjustment would have been difficult after transfusion if whole citrated blood had been used.

Concentrated red cell transfusions in the two purpuric patients were designed to treat the anaemia of hæmorrhage and not to supply platelets. The recent work of Harrington *et alii* (1951), demonstrating the presence of a purpuric agent in the blood of patients suffering from idiopathic thrombocytopenic purpura, suggests that the only value of transfusions in such cases is for replacement of red cells. The transfusion of whole blood supplies anti-hæmophilic globulin to hæmophilic patients, and for this reason is to be preferred to concentrated red cells.

TABLE III.  
*Units of Concentrated Red Cells Transfused to Patients in the Course of One Transfusion.*

Units.	Number of Patients Who Received the Units Shown as One Transfusion.	Percentage of All Patients.
1	216	28.2
2	348	45.5
3	138	18.0
4	53	6.9
5	6	0.8
6	2	0.3
7	1	0.1
8	—	—
9	1	0.1

and almost 99% received four or less units. However, some patients, mostly with blood dyscrasias, received repeated transfusions during the period under survey. One with leuchæmia and secondary acquired hæmolytic anaemia received in all 124 units.

#### Transfusion Reactions.

Forty-six transfusion reactions were recorded, representing a rate of 2.9%, which is slightly less than that following citrated whole blood transfusions given during the same period. The nature of the reactions was as follows: rigor and pyrexia 18 cases, pyrexia only 21 cases, hæmolytic reaction four cases, circulatory reaction two cases, capillary hæmorrhages one case, allergic oedema one case. One hæmolytic reaction was the result of an avoidable incompatible transfusion, and three such reactions occurred in patients suffering from acquired hæmolytic anaemia. These three represented a temporary exacerbation of the hæmolytic process characteristic of the disease and were unavoidable. One patient recorded as having experienced a circulatory reaction died shortly after completion of the transfusion with acute pulmonary oedema. His severe anaemia was associated with congestive cardiac failure, and slow transfusion with two units of concentrated red cells had been undertaken. The small child who showed diffuse capillary hæmorrhages after transfusion was suffering from acute leuchæmia, and this type of reaction has previously been recorded as occurring in similar patients. It was not possible in several instances of pyrexial reactions to distinguish between the transfusion and the patient's condition as causative factors—a difficulty always encountered when transfusion reactions are being analysed. For instance, one patient recorded as having experienced a transfusion reaction was suffering from subacute bacterial endocarditis, and three others were transfused in the immediate post-operative period. Furthermore, many of the pyrogenic reactions were undoubtedly the result of imperfectly prepared sets for administering the cells in hospitals, and consequently are not necessarily attributable to the concentrated cells. The reaction rate has, however, been sufficiently low to be an unimportant factor when one is



considering the relative merits of whole blood and concentrated red cell transfusion.

#### Summary.

An analysis of the indications for concentrated red cell transfusions suggests that they are to be preferred to citrated whole blood transfusions for the great majority of anæmic patients requiring transfusion. On the other hand, their value is not comparable with that of whole blood transfusions in the treatment of shock or acute hæmorrhage, because they are not so effective in increasing the circulating blood volume of these patients. Most patients have received only small volumes at the one time, but many have been transfused on several occasions. The reaction rate has been low.

#### Acknowledgements.

The author is indebted for permission to quote details of treatment to Dr. R. B. C. Stevenson, under whose care the patient was admitted to the Women's Hospital, Crown Street, and to the resident medical staff of that hospital for much assistance.

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### INFECTIVE HEPATITIS AMONG STUDENT NURSES: AN EPIDEMIOLOGICAL STUDY.

By D. J. R. SNOW,  
Perth.

INSTITUTIONAL outbreaks of infective hepatitis are not uncommon. They usually follow a protracted course of many months, and attention has been specifically drawn to "the extended series of cases in nurses which sometimes follows the introduction of infection among the nursing staff" (McFarlan, 1951). Little has been written about the disease in Australia, and it is difficult to find any report of a hospital outbreak.

That infective hepatitis is communicable is of course well recognized, but it is perhaps not sufficiently appreciated that it is a disease which nurses can readily acquire, and also that it is one of the many cross infections which may occur among patients within a hospital. For these reasons it seems worth while to report this outbreak of thirty cases among the staff of the Princess Margaret Hospital for Children, at Subiaco in Western Australia.

The first patient suffering from acute infective hepatitis treated in the hospital during 1950 was admitted on July 17 and remained under treatment in hospital until September 4. The patient was a country boy, aged ten years, and he had been ill for about three weeks. Up to that time twelve notifications for infective hepatitis had been received by the State Department of Health for the year. Half of these referred to immigrants who had been treated at two camp hospitals.

On August 2 a second child was admitted to the hospital with the disease. She was a mentally defective girl, aged ten years, with a history of loss of appetite and intermittent vomiting of one week's duration. She had become jaundiced on the day prior to her admission to hospital. Clinical findings and subsequent investigations were indicative of infective hepatitis. She remained in hospital until August 29.

On August 15 a third patient was admitted. He was aged nine years and had had jaundice for eight days. He was found to have clay-coloured stools, bile in his urine and an enlarged liver. His progress was uneventful, and he was allowed to go home on September 20.

The first member of the hospital staff to contract the disease was a nurse, who developed symptoms on October

CHART I.

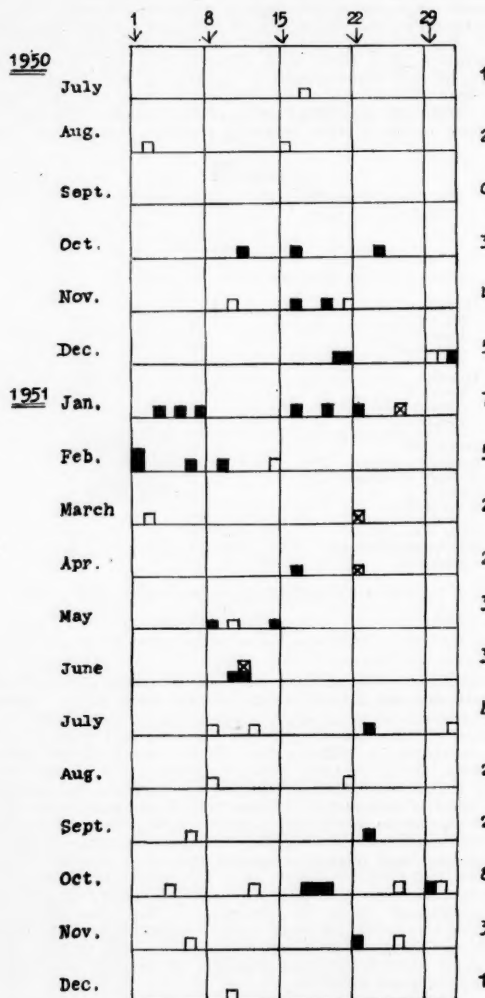


FIGURE I.

A total of 57 cases. Solid squares, onset of disease in nurses; open squares, date of admission to hospital of child patients suffering from infective hepatitis; squares with crosses, date of onset of infective hepatitis in patients being treated for another disease.

11. She was the forerunner of thirty known cases during the next thirteen months. Twenty-nine of these patients were nurses, and one was a medical officer.

The dates of onset are shown in Table I, the space intervals are indicated in Figure I, and the monthly incidence is shown in Figure II.

Significant contact histories were obtained in a number of cases. The following are a few examples.

CASE V.—The onset was on November 19. This patient had been in close and constant contact with a colleague who had developed the disease twenty-six days previously. Her presenting symptoms were malaise, headache, backache and a slight cough. She had fever for two days. Initial laboratory investigations were inconclusive; the Van den Bergh test gave a negative result, the thymol turbidity was eight units, and the serum bilirubin content was one milligramme per 100 millilitres. However, three weeks later she developed frank jaundice.

CASE VI.—The onset was on December 21. The only known exposure had occurred twenty-five days previously when the patient had attended a private dinner party in the company of a nurse who was in her forty-second day of convalescence from the disease. Her brother was the third member of the party, and he showed his first symptoms twenty-seven days later. The presenting symptoms were anorexia, nausea and abdominal discomfort. The clinical signs included pyrexia and icterus. The urine contained bile salts. The serum bilirubin content was 3.5 milligrammes per 100 millilitres, and the Van den Bergh test produced a biphasic reaction.

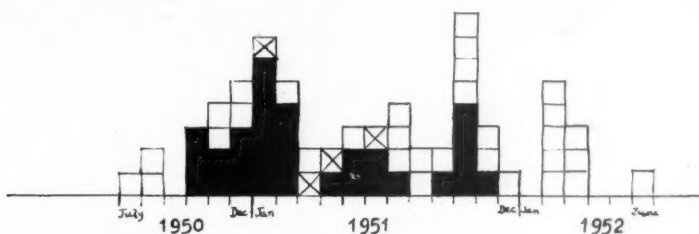


FIGURE II.

Solid squares, onset of disease in nurses; open squares, admission to hospital of child patients; squares with crosses, cross infections.

CASE VIII.—The onset was on December 31. This patient had been employed for thirty-four days prior to the onset of her symptoms in nursing several colleagues ill with hepatitis. She presented with anorexia, nausea and epigastric discomfort.

CASE IX.—The onset was on January 3. This nurse had joined the staff of the hospital twelve weeks previously. She was sure that none of her patients were known to be suffering from infective hepatitis. The only definite and direct exposure she could recall was thirteen days prior to the onset of her first symptoms, when she had visited a friend who was suffering from the disease. She did, however, admit fleeting contact about thirty-six days previously with two nurses who were sickening for the disease, and all three used the same toilet. The presenting symptoms were sore throat, headache and nausea, and the clinical signs included pyrexia, slight icterus and severe tenderness in the right posterior nuchal triangle. The urine contained bile salts on two successive days, and the white blood cell count was 7600 per cubic millimetre, 64% being polymorphonuclear cells.

CASE X.—The onset was on January 5. Nine weeks previously this patient had been employed nursing several colleagues suffering from hepatitis. Two weeks later she developed what appeared to be an upper respiratory tract infection and was herself treated in sick bay for a few days; during this period she was in intermittent contact with jaundiced patients. She could recall no other specific exposure, so that it is possible that the incubation period in this case exceeded forty-two days. She presented on January 5 with alimentary symptoms and soon developed frank jaundice. The results of her investigations were as follows. The Van den Bergh test produced a biphasic reaction, the urine contained bile salts, the serum bilirubin content was three milligrammes per 100 millilitres, the thymol turbidity was 13 units, and the serum alkaline phosphatase content was 10 units.

CASE XI.—The onset was on January 7. This patient had been working in the out-patient department of the hospital for three months prior to her illness. During that time she had been in daily and repeated contact with a medical practitioner, who had developed symptoms seventeen days previously. She could remember no other possible exposure. Her presenting symptoms included anorexia, offensive breath, a distaste for cigarettes, sore throat, and neck stiffness. The clinical findings included pyrexia, icterus and biliruria.

CASE XII.—The onset was on January 16. This nurse had been living at a satellite institution away from the hospital until December 10. On January 1 she assumed duty in sick bay and first came into contact with hepatitis. Exposure thus commenced sixteen days prior to the onset of her disease.

CASE XIII.—The onset was on January 19. This nurse had been under treatment in sick bay from November 7 to December 30, because of a tonsillectomy and later because of a septic infection of a finger. Several colleagues in adjoining cubicles were being treated for hepatitis.

#### Mode of Spread.

The possible modes of spread of infective hepatitis include personal contact (either droplet infection or faecal transference or both), contamination of water with infected faeces, and contamination of food by flies or food handlers. All these possibilities were borne in mind during the investigation of this outbreak. However, the institution's water supply came from a safe source; the sewerage system

was in good working order; the kitchen hygiene was satisfactory and there was no illness among the food handlers. Flies were prevalent during the warmer months, but they were not numerous, and the kitchens and dining rooms were protected by fly-wire.

These observations, together with the frequency of significant contact histories and the protracted course of the outbreak, led to the conclusion that the mode of spread was by personal contact, the infection being conveyed directly from the afflicted to the susceptible, although the precise mechanism of transfer must remain a matter for conjecture.

#### Cross Infection.

Altogether during the two years 1950 and 1951, 27 children were treated at the hospital for acute infective hepatitis. Four of these were apparently infected within the hospital while undergoing treatment for another disease.

The dates of admission and discharge were as shown in Table II.

The following are some details concerning the four apparent cross infections.

CASE I.—A girl, aged three years, was admitted to hospital on March 14, 1950, for investigation. She had been born with a meningocele and *spina bifida*, had been operated upon when six days old, and had since lost movement in the lower limbs. She also had hydrocephalus and bilateral *talipes equino-varus*. She was discharged ten days later, readmitted to hospital on April 6, and remained continuously in hospital for some fourteen months thereafter. While still under treatment in 1951 she developed anorexia and vomiting, and became jaundiced on April 25.

CASE II.—A girl, aged seven years, was admitted to hospital on November 30, 1950, with a history of polydipsia, polyphagia, polyuria and loss of weight. She was found to have heavy glycosuria, a fasting blood sugar content of 210 milligrammes per centum, and other evidence indicative of *diabetes mellitus*. Fifty-seven days after her admission to hospital she "went off her food" and vomited intermittently. A few days later she developed jaundice. Bile appeared in her urine, her stools became clay-coloured, and her liver became enlarged.

CASE III.—A boy, aged twelve years, was admitted to hospital on January 13, 1951, with pain in both knees and in the left elbow of six days' duration. Subsequent examination and investigation led to a diagnosis of rheumatic fever, and cardiac complications supervened. Sixty-eight days after his admission to hospital he began vomiting, and soon afterwards he developed the clinical manifestations of infective hepatitis.

CASE IV.—A girl, aged seven years, was admitted to hospital on March 9, 1951, with pain in the right ankle joint and fever. She had had tonsillitis two months previously. In due course a diagnosis of rheumatic fever was made and

more or less continuously among the hospital staff for over a year.

It would appear that the infection was introduced into the hospital by patients and that the first few nurses affected acquired their infections from these patients. It seems likely, however, that subsequent transmission included all three possibilities—infection from nurse to nurse, nurse to patient, and patient to nurse.

Water, flies and food have been incriminated as agents in transmission in war-time epidemics among servicemen. However, personal contact is much more conspicuous in civilian outbreaks. The outstanding impression in this outbreak was of direct transmission from the afflicted to the susceptible.

A history of significant contact was common, and several of the links in the chain of infection could be traced. That the degree of contact necessary for infection needs to be close has been noted before (Pickles, 1939), but one of the noteworthy features of this outbreak was that infections appear to have been acquired during the nursing management of patients suffering from the disease.

TABLE I.

Month.	Date of Onset in Staff.	Date of Onset in Cross Infections.	Date of Admission of Patients to Hospital.
1950—			
July ..			17
August ..			2
			15
September ..			
October ..	11		
	16		
	24		
November ..	16		10
	19		
December ..	20		21
	21		
			30
			30
	31		
1951—			
January ..	3		
	5		
	7		
	16		
	19		
	22		
February ..	1	26	
	1		
	6		
	9		
March ..			14
			2
April ..	16	22	
		22	
May ..	8		10
June ..	14		
	10		
	11		
July ..		11	8
			13
	23		31
August ..			8
			21
September ..			6
	23		
October ..			4
			12
	17		
	18		
	19		
	29		26
November ..			30
	22		6
December ..			26
			10

appropriate treatment instituted. Three months after her admission to hospital she began to vomit intermittently for no accountable reason, and a few days later she was found to be suffering from infective hepatitis.

These cases show that infective hepatitis is yet another of the many cross infections that may be acquired within a hospital.

#### Discussion.

This institutional outbreak of infective hepatitis reveals several characteristic features in the epidemiology of the disease.

It has been the experience elsewhere that once the hepatitis virus gains access to an institution such as an orphanage, school or hospital, it persists with irksome tenacity for many months. In this outbreak cases occurred

TABLE II.

Patient.	Date of Admission to Hospital.	Onset of Hepatitis.	Date of Discharge from Hospital.
J.R. ..	6. 4.50	22.4.51	22.6.51
P.C. ..	30.11.50	26.1.51	22.3.51
R.M. ..	13. 1.51	22.3.51	13.6.51
J.S. ..	9. 3.51	11.6.51	18.6.51

The fundamental principles of attempted control must of course be prompt isolation and the surveillance of close contacts, and special precautions should be observed by nurses looking after patients suffering from this disease. "Barrier" precautions may not be enough. The virus is much harder than the typhoid bacillus and can probably persist for some time in dried particulate faeces. Furthermore, the possibility of spread by oro-pharyngeal droplet must be remembered. The full *régime* of masks and gowns, the disinfection of hands, separate feeding utensils, and the safe disposal of dejecta with sterilization of bed-pans and urine bottles should be considered. In short, it may be desirable for infective hepatitis to be treated in recognized hospitals for infectious diseases rather than in general hospitals, for such a disease is best handled by a staff specially skilled in routine personal prophylaxis and in the prevention of cross infection.

The clinical attack rate in closed communities without previous experience of the disease is of course variable. In this outbreak 30 out of approximately 160 similar persons exposed on the staff contracted the disease—that is, about 18%. In a recent report of an outbreak in a transit camp, where the mode of spread is believed to have been by aerial transmission and direct contact, the attack rate was 30% (Merveille and Heuls, 1951), although as many as 60% of pupils in a preparatory school have been affected (McNee, 1952).

A detailed description of the clinical features of the cases comprising the outbreak is outside the scope of this report, but it is of some interest from the viewpoint of the portal of entry that both alimentary and upper respiratory manifestations were noted, and that in some instances both groups of symptoms were observed.

#### Summary.

A small outbreak of infective hepatitis among trainee nurses in a children's hospital is reported. The mode of spread appeared to be by personal contact, and there were instances in which infection was attributable to the actual handling of patients suffering from the disease. It is suggested that infective hepatitis should be treated in recognized hospitals for infectious diseases, where special precautions are most likely to be observed.



### Acknowledgements.

I am indebted to Dr. A. R. Edmonds, the former medical superintendent of the hospital, who invited inquiry into this outbreak and made clinical case notes available; to Dr. G. Sparrow, for subsequent assistance; and to Matron E. Stokes, M.B.E., who enabled the nurses to be interrogated. I am also grateful to Dr. Linley Henzell, Commissioner of Public Health in Western Australia, for his interest and for his permission to publish this report.

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## SOME EXPERIENCES IN A KOREAN PRISONER-OF-WAR CAMP HOSPITAL.

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THE hospital which is the subject of this paper had 10,000 patients, consisting of those who came from the prisoner-of-war camp, containing approximately 140,000 prisoners, and also captured wounded who were brought down from forward areas.

The hospital consisted of tents, with the exception of the pre-operative and post-operative wards, which were in Quansett huts, and the three operating theatres and the X-ray and pathological departments, which were in a building, previously a Korean school.

The hospital was run by the United States army. Besides the American staff, a number of South Korean doctors and nurses were employed, and among the prisoners were a number of North Korean doctors and nurses, of whom use was made.

Approximately half the patients had surgical conditions and half medical conditions.

The surgical patients included about 2000 with orthopaedic conditions, chiefly gunshot wounds of the limbs, and several hundred suffering from frostbite with gangrene.

The frostbite patients were mainly Chinese taken prisoner during the fighting at the Chosen reservoir north of Hamhung in November and December, 1950, where the temperature went down to 15° below zero Fahrenheit. There was a time interval of from four to six weeks before these patients came to operation, and the lines of demarcation were clearly defined. Many patients were frostbitten extensively and had more than one extremity amputated; there were some who lost both feet and both hands (I myself operated on two of these) and a number who required amputation of both feet.

Amputation with primary closure was carried out on almost all patients and was 90% successful, all patients being given penicillin and streptomycin. The classical types of amputation were carried out when possible; Lisfranc's operation on the foot was frequently performed, as there was no possibility of an artificial foot becoming available.

In some cases it was found that hands and feet that were black were frostbitten only superficially and were merely covered by a thick sheet of gangrenous skin, regeneration having taken place underneath; when this skin had been peeled off, amputation of fingers or toes only was required.

There were a number of patients with Napalm burns, requiring plastic surgery. Napalm is intensely hot and

leaves severe scarring on exposed parts, some patients having ears and eyelids burnt off. Anyone who is near the centre of the Napalm burst succumbs, so that those who survive have burns of the exposed parts only as a rule.

The gunshot wounds of the thigh, with accompanying compound and comminuted fractures of the femur, presented a problem, as many of these subjects had been wounded two months earlier, and many had partial union with considerable overlapping. Open operation was frequently performed, and it was found in some cases that union and adhesions were so strong that nothing could be done.

There were large numbers of patients requiring nerve repairs, and all other types of war wounds were present.

In addition to the old patients there was a continuous stream of freshly wounded from the front and of persons with acute abdominal conditions from the prisoner-of-war camp. Blood of group O was always in sufficient supply.

On the medical side there were about 2500 cases of tuberculosis. Malnutrition and dysentery were very common among the large numbers of prisoners taken at the Inchon landing. Of Koreans, 90% harbour the *Ascaris lumbricoides* worm, hookworm is common, and many are carriers of typhoid and paratyphoid. Patients with epidemic typhus and smallpox arrived from time to time.

Cases of paragonimiasis, lung fluke and relapsing fever due to *Borrelia recurrentis* were common.

The Koreans are a hardy race, and I have seen a patient with a gunshot wound of the belly of forty-eight hours' duration, with perforations of the small intestine, ask for "chop chop" before operation.

### Conclusion.

In conclusion, I should think that this hospital, with approximately 10,000 patients, must be the largest in the world.

### Acknowledgement.

I wish to thank the Director-General of Medical Services, Air Vice-Marshal E. A. Daley, C.B.E., for permission to publish this article, which was prepared when I was senior medical officer of Number 77 Squadron, Royal Australian Air Force, Korea.

## THE USE OF THE MALE TOAD, BUFO MARINUS, FOR EARLY PREGNANCY TESTS: A SURVEY OF 251 CASES.

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THE two articles by Bettinger (1950) and Bettinger and O'Laughlin (1950) published in this journal show that a substitute for the Aschheim-Zondek test has been discovered which seems to fulfil all the requirements one could wish for—quick results, a simple, time-saving, reliable method and cheap, easily obtainable material. It seems, therefore, surprising that only a few pathologists and hospital laboratories are using this test in New South Wales. Possibly it is more widely used in Victoria and Queensland. This paper aims to show how the reliability of the test can be increased and how certain difficulties can be overcome.

### The Toads.

The toads (*Bufo marinus*) are easily and cheaply obtained. They live in the canefields in Queensland and can be obtained on application to the Commonwealth Health Department in Cairns or Townsville or to the State Health Department in Innisfail. The department kindly dispatches only male toads by air freight within a short time after receiving an application, charging a small fee per toad plus actual expenses for the air freight and packing, and

so saves the applicant from having to sort out the sexes. The toads are packed with moist straw and arrive in excellent condition. They should be unpacked as soon as possible after their arrival. The toads cannot be caught during the wet season. It is therefore advisable to get a good stock in March or April, which will last over the winter months, and again in December or January.

The toads can be kept in any kind of container—glass, cement, or wire netting cages *et cetera*—provided that they have enough moisture; that is to say, the bottom of the container should be covered with a wet bag, wet rags or soaked cotton wool, which should never be allowed to dry. *Bufo marinus* toads are land animals and should not be kept submerged in water, but one can have a shallow dish with water in the cage, which they seem to use especially during long week-ends, when the rags dry out. The temperature of the room should not be allowed to drop below 65° to 70° F. If the cages are exposed to bright daylight they should be covered with rags or sacking soaked in water; this increases the moisture in the cage and keeps the light out. The toads are free from odour; therefore they can be kept in a corner of the laboratory, in a basement, on a sheltered veranda or in any convenient place.

The feeding is even simpler—one need not feed them at all. The toads live on their own resources for six to eight months and reject any food offered except perhaps an occasional wriggling worm or live maggot.

Each toad may be used over and over again, provided one gives it a rest period of eight to ten days. In this survey some of the toads were used up to four times, but probably they could be used even more often if necessary. After approximately six months a new batch of toads was received and the few old survivors were discarded. The most convenient way of using the toads is to have three cages and work with three batches in rotation.

There does not seem to be any seasonal variation in *Bufo marinus*, and the animals have been used all the year round during the two years of this investigation. This is in contrast with observations on *Rana pipiens*, in which Holyoke and Hoag (1951) have reported seasonal variations, but in accordance with Brody (1949), Wannan (1952) and many others.

The injection of the toads was performed by the method set out by Bettinger and O'Laughlin.

The urine of the toads was examined microscopically for the presence of spermatozoa. A result was reported as positive if any motile spermatozoa were observed. Usually these are so numerous that the result of the test is quite beyond doubt, but even one or two motile spermatozoa indicate a positive result. In most cases one can have a positive result within one to three hours, although sometimes the spermatozoa appear or are more numerous only after eighteen to twenty-four hours.

#### Procedure.

It has been shown by Wannan (1952) that at a low prolactin level, which is to be expected in pregnancy of only one month's or more than four months' duration, not all toads may react positively. It is therefore advisable to use two animals for every test, by injecting one toad with 10 millilitres of untreated urine and the second one with a detoxified concentrated extract. If one wants to save toads it is preferable to inject one toad with the concentrate. Should the result be negative, however, one must repeat the test on a second toad, because it could happen that the toad was sick or managed to expel enough of the injected fluid to spoil the test. There is also a quite considerable death rate amongst the toads after they have been injected with untreated urine.

The following circumstances seem to influence the mortality: (i) bacterial decomposition of the urine due to long standing; (ii) the addition of preservatives, to avoid decomposition, which are toxic to toads; (iii) the taking of drugs by the patient prior to collection of the urine. It has been observed that the toads die after being injected with the urine of patients taking sedatives such as phenobarbitone and "Nembital", "sulpha" drugs, or iron prepara-

tions, whether by mouth or by injection. Blood-stained urine also frequently kills the toads, if used without further preparation.

#### Methods for Detoxification and Concentration of Urine.

1. For the bacterial decomposition of urine simple ether extraction is a quick remedy, provided that the ether is carefully removed by aeration before the injection. Even traces of organic solvents, such as ether, acetone, alcohol, toluene, kerosene *et cetera*, are toxic to toads. Thymol appears to be less toxic, and a small crystal of thymol may be added as a disinfectant to urine that has to be sent by post. Strong acid must not be added.

2. Another simple detoxification method is the use of "Amberlite Resin XE96".<sup>1</sup> According to Levy and Putnam (1951), the resin should be washed with dilute acid and alkali and then with water, and dried. However, it is effective if one uses the resin just as it is delivered. Twelve millilitres of urine and three grammes of "Amberlite" are shaken vigorously, allowed to settle and then centrifuged. The clear supernatant fluid is used for injecting the toad. Not a single death occurred amongst 18 toads injected with urine detoxified by this method; positive results remained positive and negative results negative. This treatment, however, does not concentrate the hormones in the urine, and in two cases in which the "Amberlite"-treated urine gave a negative result, the concentrated extract of the urine gave a positive result.

3. The kaolin adsorption method (a modification of Cutler's method, 1949) is as follows:

One hundred millilitres of urine are acidified to a pH of 3.9 or 4.0 by the addition of 20% hydrochloric acid dropwise from a pipette. The pH is determined either by using a suitable indicator paper (range 3.6 to 5.1) or by a glass electrode potentiometer. The urine is then placed in a stoppered 100-millilitre glass cylinder, and eight millilitres of a 20% kaolin suspension are added. The cylinder is stoppered and the contents are well mixed by inversion at least twelve times. It is set aside for ten minutes or a little longer until the kaolin settles to the 25 or 30 millilitre mark. The supernatant fluid is poured or sucked off and discarded; the kaolin suspension is transferred to a round-bottomed centrifuge tube and spun down for five minutes. The supernatant fluid is poured off and discarded. The packed kaolin is stirred up with a glass rod and gradually mixed with eight to 12 millilitres of freshly prepared  $N_{10}$  caustic soda solution. After centrifugation for five minutes the almost clear supernatant fluid, which contains the hormones, is poured off. A few drops of hydrochloric acid (20%) are added to bring the extract to a pH of 5.5 to 6.0; the glass electrode potentiometer or indicator paper (range 5.2 to 6.7) should again be used to determine the pH. The resulting 10 to 14 millilitres are sufficient for injecting two toads.

4. The acetone (or alcohol) precipitation method (Reinhard, Caplan and Shinowara, 1951) is as follows. The original method was based on acetone for precipitation of the hormones, but this solvent has the disagreeable effect of dissolving the paint in the centrifuge. In a personal communication on the subject of hormone concentration, Dr. J. O'Reilly, Director of the Laboratory of Microbiology and Pathology, Department of Health and Home Affairs, Brisbane, suggested replacing the acetone by absolute alcohol, and it seems to work just as well.

One hundred millilitres of chilled acetone or alcohol are mixed with 50 millilitres of chilled urine in a 250-millilitre Erlenmeyer flask and well shaken for three to five minutes. The flask is placed in the refrigerator for at least twenty minutes, the precipitate being allowed to settle on the bottom. The precipitate is carefully freed of the supernatant fluid by pouring off, centrifugation and decanting, the centrifuge tube being drained and its mouth wiped inside and outside. The precipitate is taken up with five to seven millilitres of Soerensen buffer solution of pH 7.5. It is thoroughly stirred with a glass rod to make sure of a smooth suspension, then centrifuged for three to four minutes.

The supernatant fluid is sufficient for injecting one toad. With this extract a positive result can usually be obtained within one to three hours.

<sup>1</sup>A free sample of "Amberlite Resin XE96" was kindly supplied by Rohm and Haas Company, Philadelphia.

TABLE I.

Specific Gravity of Urine.	Number of Tests.	Total Positive Results.	Positive Results with Untreated Urine.	Concentrate only "Positive", Untreated Urine "Negative".	Deaths Among Toads.	Total Negative Results.	Untreated Urine: Deaths Among Toads.
1.018 to 1.028 ..	108 (53%)	44	38	1	5	64	22
1.011 to 1.017 ..	78 (38%)	36	31	2	3	42	14
1.004 to 1.010 ..	17 (9%)	12	3	9	0	5	2

#### Influence of the Specific Gravity of the Human Urine on the Test Results.

The most common cause for wrong negative results is a too low concentration of the gonadotropic hormones in the urine. This may be due to one of the following two faults.

1. The test may have been attempted too early. As a rule one cannot expect a positive result earlier than six weeks after the last menstrual period, although one tuberculous patient gave a positive result as early as the twenty-eighth day after the last menstrual period, and three other positive results were obtained after five weeks' pregnancy. If possible, it is safer to wait until the menstrual period is two weeks overdue, especially as many people do not keep accurate records of the dates. If there is a possibility that the test has been carried out too early in pregnancy and the result is negative, it is advisable to ask for a second specimen a week or two later.

2. The urine received for investigation may be very dilute, either because of careless collection or because of polyuria. Some authors advise rejecting any urine with a specific gravity below 1.015 (Cutler, 1949) or even below 1.020 (Scott, 1940). Experiments carried out in this hospital reveal that with the concentration tests one can get reliable results with urine of considerably lower concentration.

Table I shows that of 203 specimens of urine received, only 108, or 53%, had a specific gravity higher than 1.018; 78 specimens of urine, or 38%, had a specific gravity of 1.011 to 1.017, and the remaining 17 tests, or approximately 9%, were carried out on urine of a specific gravity below 1.010, three specimens having a specific gravity of only 1.004.

Of the 108 tests performed on urine in the highest specific gravity group, 44 specimens gave positive results, and of these 38 gave a positive result with untreated urine as well as with the concentrate. Five toads died with the untreated urine, whilst the concentrates of these specimens were well tolerated and gave a positive result; one only gave a positive result with the concentrate and a negative result with the untreated urine.

Of the 78 specimens of urine with a specific gravity of 1.011 to 1.017, 36 gave positive results. Of these, 31 tests gave positive results when untreated or concentrated urine was injected, three toads died after the injection of untreated urine and gave positive results with the concentrate, and two tests gave positive results with the concentrates and negative results with the untreated urine.

In the lowest specific gravity group (under 1.010) 17 tests were carried out, of which 12 gave positive results. Only three gave positive results with untreated urine, while nine gave positive results only after preparation of a concentrate. None of the toads giving positive results died, but of the five "negative" specimens of urine injected in this group two were fatal for the toads, while the extracts were well tolerated but also gave negative results.

#### Results.

In the first group of experiments 48 parallel tests were performed on toads and mice. Two toads were injected with 10 millilitres each of the early morning urine of each patient. If the toads died the urine was extracted with ether, the ether driven off completely by aeration and another toad injected with 10 millilitres of the extracted urine. Simultaneously the classical Aschheim-Zondek test was started on two female immature mice.

As is seen in Table II in the examination of these 48 patients, 17 gave positive results and 30 negative results with both mice and toads. The remaining one test gave a negative result with toads and a positive result with mice. This would mean an error of 1 in 48—that is, approximately 2%; this urine, however, had a specific gravity of only 1.011 and might well have given a positive result with toads if a concentrate of the urine had been used.

After this group of experiments had shown the reliability of positive test results with toads, only tests giving negative results on toads were repeated on mice for the next six months (Group II, Table II). Of the 116 patients tested during this period (June 14, 1951, to January 24, 1952), 51 gave positive results and 65 negative, there being complete agreement between toads and mice. All toad tests in the second group were performed on two male *Bufo marinus* by injecting one toad with untreated urine and the second one with a concentrated extract prepared by the kaolin adsorption method as set out above.

Although the kaolin adsorption method for hormone concentration and detoxification is almost ideal as far as reliability is concerned, the preparation of the concentrate is time-consuming. Therefore the third group of tests in Table II was carried out with the acetone-precipitated extract as described earlier. This procedure is much simpler, and the concentrate is almost as well tolerated as the kaolin extract. In this group 87 tests were carried out. In every test one toad was injected with untreated urine, the second with acetone-precipitated concentrate. In cases

TABLE II.

Group.	Period.	Number of Patients.	Positive Results with Toads.	Positive Results with Mice.	Negative Results with Toads.	Negative Results with Mice.	Number of Toads Used.	Toads Killed During Test.	Wrong Positive, Toad Test.	Wrong Negative, Toad Test.
Group I. Toad test with unconcentrated urine.	7.12.1950 to 12.6.1951	48	17	19	31	29	101	30	0	2
Group II. Toad tests with kaolin concentrate.	14.6.1951 to 24.1.1952	116	51	—	65	65	236	28	0	0
Group III. Toad tests with acetone concentrate.	29.1.1952 to 5.6.1952	87	41	—	46	—	177	19	0	0



in which a toad died after the injection of urine, another toad was injected with a kaolin-precipitated concentrate. Forty-one tests gave positive results and 46 negative.

Whilst in Group I, in which no concentrates were used, 30 out of 101 toads succumbed after the injection, in Groups II and III the mortality rate could be reduced to 11% or 12% respectively.

#### Dilution Tests for Hydatidiform Moles, Chorion-epithelioma, Seminoma et cetera.

In this laboratory, of a total of 251 tests, only 11 were required with dilutions. Of these, six gave negative results even with undiluted urine when both mice and toads were used, and five gave positive results with the toad and positive results in dilutions of 1 in 50 and 1 in 100 on mice. The rapidity of obtaining results of the toad test thus makes it possible to eliminate many unnecessary dilution tests on mice. The same holds for the repetition of tests in the after-treatment of such patients, which at first gave positive results with undiluted urine on toads and mice and then gave negative results.

#### Summary.

The Galli-Mainini test in the modification developed in this hospital is the most convenient, the most reliable and the quickest test for the early diagnosis of pregnancy and should prove useful to pathologists and country doctors as well as to hospitals.

The main advantages are as follows: (i) Results are usually obtainable within three hours, always in twenty-four hours. (ii) Positive results are absolutely reliable, whether untreated urine or a concentrate is used for injecting the toads. (iii) Negative results are absolutely reliable if concentrates are used. If untreated urine is used, the reliability of negative results is approximately 98%. (iv) Two simple methods for the preparation of the urinary hormone concentrates for injecting the toads are described, which also render the human urine less toxic and thus reduce the mortality of the toads. (v) Although the toads have not yet proved suitable for dilution tests, the possibility of obtaining a swift negative result may exclude the necessity of performing a dilution test on mice in cases in which the undiluted urine or the concentrate give a negative result in the toad test.

#### Acknowledgements.

I desire to thank Dr. R. Lemberg for his help and encouragement. My thanks are also due to Mr. H. Missen for looking after the animals used in this survey.

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#### Reviews.

**Rheumatic Diseases: Diagnosis and Treatment.** By Eugene F. Traut, M.D., F.A.C.P.; 1952. St. Louis: The C. V. Mosby Company. Melbourne: W. Ramsay (Surgical) Proprietary, Limited. 10" x 7", pp. 958, with 192 illustrations. Price: £10 10s.

Most text-books of general medicine are rather inadequate sources of information concerning the conditions causing pain or disability in the motor or supporting parts of the body. In his text-book "Rheumatic Diseases", Eugene F. Traut has attempted to cover the field in a way that may be useful to student, general practitioner, physician and specialist in rheumatic diseases.

The book is well bound, printed on good paper and very well illustrated. The author has been assisted by contributions from a group of specialists distinguished in various fields—physicians, surgeons, orthopaedic surgeons, pathologists and radiologists. References to relevant literature are full and the views of the many workers on problems in this field are incorporated in the text. In spite of this the work retains very much of the personal experience of the author and does not lose an over-all unity. The term "rheumatic" is given a very liberal interpretation and it is very difficult to find any disability of the locomotor system to which reference is not made. This wide scope makes it more suitable as a reference work than as a text-book.

The introductory chapter on aetiology, classification and pathogenesis of diseases of joints appears to be rather long and rambling, partly, of course, owing to the unsatisfactory state of knowledge of the causes of joint disease. There are many useful observations concerning treatment. The good sense of the author may be illustrated by the statement on the hygiene of gout: "Like the diabetic, he (the gouty sufferer) must know his disease. If with the cards laid before him he chooses to offend his body by food, drink, or hygienic errors, nature will exact her penalty." It is inevitable that some will disagree with some of the statements made. The treatment of rheumatic disorders is not yet an exact science. However, considering the fact that these diseases are ten times as prevalent as tuberculosis or diabetes, a book of this type has a useful place in the library of all practitioners.

#### Notes on Books, Current Journals and New Appliances.

**Engineering in Public Health.** By Harold E. Babbitt; First Edition; 1952. New York: McGraw-Hill Book Company, Incorporated. 9" x 6½", pp. 594, with 53 text figures. Price: 68s.

PROFESSOR BABBITT's book cannot be recommended. It is an attempt by an engineer to write a sort of "Aids" to public health. The engineering part of the book may be sound, but the author goes astray in the fields of entomology, parasitology, immunity and so on. He makes many mistakes and misuses several terms. He confuses allergy and immunity and refers to a tick as an insect.

**The Art of Marriage.** By Mary Macaulay; 1952. London: Delisle, Limited. 7½" x 5", pp. 108. Price: 12s. 6d.

DR. MARY MACAULAY's book on the art of marriage is one of the best of its kind that we have read. The author is a medical practitioner and also a magistrate. She knows her subject and has had wide experience of the difficulties of married couples. Her book is only small, but it is divided into twelve chapters, dealing with different aspects of the subject. Three of the best are "Learning to Live Together", "Jealousy and Possessiveness", and "Living Happily Together". Dr. Macaulay's writing is clear, direct and wise. We recommend this book with the greatest confidence.

#### Books Received.

[The mention of a book in this column does not imply that no review will appear in a subsequent issue.]

"The Surgical Clinics of North America": 1952. Philadelphia and London: W. B. Saunders Company. Melbourne: W. Ramsay (Surgical) Proprietary, Limited. Philadelphia Number. 9" x 6", pp. 348, with 99 illustrations. Price: £6 per annum in paper binding and £7 5s. per annum in cloth binding.

Consists of 16 articles on safeguards in surgical diagnosis by Philadelphia surgeons, together with two clinics on other subjects.

## The Medical Journal of Australia

SATURDAY, MARCH 21, 1953.

All articles submitted for publication in this journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations and not to underline either words or phrases.

References to articles and books should be carefully checked. In a reference the following information should be given without abbreviation: surname of author, initials of author, year, full title of article, name of journal without abbreviation, volume, number of first page of the article. If a reference is made to an abstract of a paper, the name of the original journal, together with that of the journal in which the abstract has appeared, should be given with full date in each instance.

Authors who are not accustomed to preparing drawings or photographic prints for reproduction are invited to seek the advice of the Editor.

### SOME AUSTRALIAN APPOINTMENTS IN MEDICINE.

For many years the University of Sydney was the only Australian university possessing a medical school which had a professor of medicine. The Sydney appointment, together with the professorships of surgery and bacteriology, was made possible by the Bosch bequest. The appointment was a full-time appointment, and the present holder of the office, the original appointee, has, as the world of medicine is well aware, created a department which has earned the respect of medicine throughout the Commonwealth. The University of Queensland, on the establishment of its medical school, was content to appoint a lecturer in medicine, but in 1946 it made its lecturer part-time professor in medicine. This arrangement asks too much of any man, and great satisfaction was expressed a few months ago when the University of Queensland advertised for a full-time professor of medicine. The University of Adelaide has recently, on paper at least, added to its laurels by appointing a professor of medicine, and it is common knowledge that the University of Melbourne which has previously relied on lecturers is about to appoint professors of medicine and surgery. In Western Australia there is no medical school attached to the University, and it does not seem likely that one will be established in the near future. What may be regarded by some persons as a step in the direction of a medical school for Western Australia, however, is the recent creation of a Medical Research Unit at the Royal Perth Hospital. This unit will certainly help to advance the standard of medicine in "The West" and will facilitate post-graduate study in medicine. Looked at broadly, these several changes and creations may be thought to mark advances and to give rise to satisfaction; but they should be examined individually and with a critical eye.

Taking first of all the non-university appointment at Perth, we note that the conditions are first rate. When the first director of the Clinical Research Unit was appointed, the unit was charged with the responsibility of conducting clinical research. That this may be possible, it has control of twenty-four hospital beds and conducts two out-patient clinics a week. The staff of the unit is not yet complete—it is hoped not only that ultimately the director will have a senior clinical first assistant and the services of a resident medical officer, but that a pathologist, with technicians and a junior biochemist, will be provided. At present the activities of the unit are being devoted to a number of straight-forward clinical problems such as the natural history and epidemiology of infectious hepatitis, the aetiology of the pneumonias, the management of hæmatemesis and so on. The unit has been charged, as a matter of fact, with the investigation of "disease with particular respect to Western Australia"—a wholly admirable direction. It is quite likely that in pursuing this objective the staff will include in its scope the study of the sociological patterns of disease. At the same time the Clinical Research Unit has been given post-graduate teaching responsibilities. Post-graduate teaching in Western Australia is under the direction of the Post-Graduate Committee, but to aid in teaching the unit holds a ward-round on one afternoon a week to which resident medical officers of the Royal Perth Hospital and outside general practitioners will be welcomed. Every Saturday morning there is a forum for case discussion which is open to all practitioners. The salary paid to the director of this important and (for Western Australia) pioneering unit is £3000 a year.

The University of Queensland is at present, as already noted, appointing a full-time professor of medicine. The conditions of this appointment are that the duties of the Professor shall include responsibility for the management and administration of the University Department of Medicine, for the efficient training of medical students in the principles and practice of medicine (including hospital instruction), and for the supervision of clinical teaching in medicine in teaching hospitals. He will be required to devote the whole of his time to his university duties "except that he will be permitted to engage in a limited amount of consultative medical practice, provided that, in the opinion of the Senate, such practice does not interfere with his university duties. No fee may be received by the Professor in connection with any consultative practice". The official statement of conditions mentions "teaching beds" in several hospitals which are under the control of a visiting staff, but no reference is made to beds which shall be controlled by the Professor. The only reference to research is that: "Facilities for research will be available." The salary attached to the position is £3000 a year, with the addition at the present time of a living allowance of £214 *per annum*. The salary offered for this position is satisfactory, but the other defects in the conditions are, or should be, obvious. The emphasis laid on research is not great; presumably it will be left to the inclination and the initiative of the appointee to determine the scope of this indispensable side of his activities, and even whether he will regard research as necessary. The provision that consultative medical practice may be undertaken is shorn of some of its danger by the proscription of the receipt of fees for the work. We must presume that what is intended

is that the Professor will be able to come to the help of his colleagues in private practice when they stand in need of it. Applications for this position closed on November 30, 1952, but so far no appointment has been made.

In South Australia, which formerly relied on lecturers, a professor of medicine has been appointed at the University of Adelaide. The conditions under which this appointment was advertised leave a great deal to be desired. The advertisement in the *British Medical Journal* of May 17, 1952, stated that the Professor would be head of the Department of Medicine in the University and would be responsible to the Council for teaching, post-graduate training and research in the Department. The salary offered was £1850 (Australian currency) with a present cost-of-living allowance of £176 16s. a year. The Professor was to be "permitted to engage in a limited amount of private consultant practice, the extent of and the arrangements for which" would be "subject to approval by the University Council". The advertisement goes on: "The University seeks a Professor whose research interests lie primarily in clinical medicine and whose laboratory will for the most part be the hospital wards. Some research facilities can be provided by the other Departments of the Faculty of Medicine. During the next five or six years it will not be possible for the University to provide the accommodation, equipment, staff, and maintenance necessary for basic laboratory research." The implication is that the University knows that basic medical research is necessary. Apparently the Department of Medicine will act as a clinical research unit and not as a fully grown professorial department. The Professor has had his wings clipped in the research field and the salary offered him is quite inadequate. We must conclude that the permission to engage in consultative private practice is a bait to compensate for the inadequate salary—the Professor must earn for himself the remainder of the salary which the University ought to pay him. There is no prohibition in the matter of fees as there is in Queensland; obviously the earning of fees is to be encouraged. In other words the Professor of Medicine in the University of Adelaide is not to be a full-time officer. Since the University Council is to "approve" the extent and arrangements for the Professor's private practice, we may perhaps be pardoned for wondering whether it will wish to inspect the Professor's annual income tax return. On the question of the conduct of private practice by a professor of medicine we cannot do better than quote the words of Robert Platt, Professor of Medicine in the University of Manchester, which he uses in an article entitled "Wisdom is Not Enough", published in *The Lancet* of November 15, 1952.

As to whether the professor himself should be whole-time or engage in private practice, the answer is easy. There are only 24 hours in a day. A professor of medicine has four separate tasks and could quite easily spend his whole time on any one of them—teaching, research, administration, and hospital practice. It follows that he cannot possibly have time for private practice in addition, and that even without it, if he has a conscience, he is bound to feel continually inadequate to his task.

One satisfactory point about the professorship is that the Professor will have charge of beds in the Royal Adelaide Hospital. The retiring age for the Professor will be sixty-five years. The new Professor who will soon take up his duties will have the sympathy of the medical profession in

his attempt to make his ill-paid job effective. Perhaps his influence will help to shorten the five or six years which the world has been told must intervene before basic research in the Department of Medicine is possible.

The University of Melbourne remains to be mentioned. At present it is reported that two professors of medicine and one of surgery are to be appointed. The University of Melbourne has seen examples of what ought and what ought not to be done. It is to be hoped most earnestly that wise counsels will prevail, that the value of medical teaching with its attendant research will be the sole object of those who plan and make the appointments, and that the aspirations of individual teaching hospitals will not be allowed to impair eventual effectiveness and efficiency.

## Current Comment.

### OXYGEN THERAPY AND RETROLENTAL FIBROPLASIA.

A LEADING article on retrolental fibroplasia and prematurity, published in this journal on September 23, 1950, concluded with the statement that the one clear point about retrolental fibroplasia was its association with prematurity and low birth weight; and the opinion was expressed that our inability yet to interpret the significance of that fact did not make the fact and its overcoming any less important. It is still true that the more we can avoid premature births the better it will be from the point of view of preventing retrolental fibroplasia. Just the same, the condition will not be controlled with any certainty until we know why some premature babies develop it and others do not. Many factors more or less obviously associated with prematurity have been investigated, but in general the results of investigation have been disappointing. However, against one factor, namely intensive oxygen therapy, incriminating evidence seems to be mounting. In an extensive survey of factors possibly related to retrolental fibroplasia, which they published in 1949, V. E. Kinsey and L. Zacharias<sup>1</sup> noted a degree of correlation between the incidence of retrolental fibroplasia and the administration of oxygen to premature infants, but it appeared to be less than for certain other factors and they paid no more attention to it, at least in their published paper. It was first brought to general notice, so far as we know, by Kate Campbell, of Melbourne,<sup>2</sup> who compared two groups of premature infants and found that the incidence of retrolental fibroplasia was higher amongst infants receiving intensive oxygen therapy than amongst those receiving moderate oxygen therapy; the difference was statistically significant. Exceptions to the general finding, however, indicated that other factors also operated, and Campbell suggested that the potential toxic effect of oxygen on premature infants could be enhanced (a) by administration of a high concentration of oxygen therapeutically, (b) by pyrexia, and (c) by toxæmia. The subsequent comment made by Derrick Vail, editor of the section on the eye in "The 1951 Year Book of the Eye, Ear, Nose and Throat", was that despite Campbell's findings and the report by Kinsey and Zacharias, anoxia as a cause of retrolental fibroplasia remained an attractive hypothesis. He referred to evidence produced by Szewczyk to the effect that retrolental fibroplasia is produced by the improper administration of oxygen to prematures, in that it either is administered not long enough or is discontinued too suddenly, and that it is the blood oxygen tension which appears to be the important factor. As an alternative interpretation of the same essential facts this contention

<sup>1</sup> J.A.M.A., February 26, 1949.

<sup>2</sup> M. J. AUSTRALIA, July 14, 1951.



of Szewczyk's merits careful consideration, since the two hypotheses suggest very different lines of practice. However, strong support for Campbell's hypothesis has come during the past year in two papers, one from England and one from America. V. Mary Crosse and P. J. Evans,<sup>1</sup> from a study of the history and course of retrolental fibroplasia in England and from their own experience in Birmingham, express the opinion that the real source of this disease lies in the widening and prolonged use of a high concentration of oxygen in the early life of premature infants of low birth weight (four pounds or less). They point out, as others have done, that retrolental fibroplasia is a new disease of very recent origin; the evidence does not support any suggestion that it is an old disease newly described. Its incidence in England has risen rapidly since its first appearance in 1946. The statement is made that, as in the United States, its occurrence in England is restricted almost entirely to centres with special units for premature babies; furthermore, the occurrence of cases has coincided either with the increased use of oxygen in established units or with the setting up of new units with full facilities for oxygen administration. The increased survival rate of babies of low birth weight does not explain the spread of retrolental fibroplasia, and the only change in treatment of these infants in the relevant period (1946 to 1951) which has shown any significant relation to the disease is the amount and duration of oxygen administration. Figures for two premature-baby units quoted by Crosse and Evans show not only an increase in the number of cases of the disease with the increasing use of oxygen, but also the disappearance of the disease when the use of oxygen was limited—just enough oxygen was given to prevent cyanosis and a gradual return to normal air was achieved as soon as possible. Commenting on the suggestion that anoxia may be responsible for retrolental fibroplasia, Crosse and Evans point to the absence of the disease in the period when oxygen was little used. They suggest, however, that the retinal changes may derive from a preliminary adjustment of the retina to a high oxygen tension, whereby the retina loses its ability to accommodate itself to a state of relative anoxia on removal to atmospheric oxygen. Even this concession to the anoxia theory, and more particularly to Szewczyk, is not supported in the American report by A. Patz, L. E. Hoeck and E. De La Cruz.<sup>2</sup> They made careful observations of two groups of infants with birth weights under 3.5 pounds, one group being kept in a high oxygen concentration (65% to 70%) for four to seven weeks, the other in a lower oxygen concentration (less than 40%). Infants were allotted alternately to one or other group regardless of birth weights. They were constantly examined for changes indicative of retrolental fibroplasia, the changes being described according to four grades. Of 28 children in the high oxygen concentration seven developed changes up to grades III and IV. Of 37 children in the lower oxygen concentration two developed grade II changes, but none went beyond that stage. It should be noted that weaning from the high oxygen concentration was gradual and extended over a period of one week, which leaves little room for the possibility of relative anoxia due to difficulty of adaptation. Moreover, changes indicative of retrolental fibroplasia were detected in some infants while still in incubators with a high oxygen concentration. As a further check two infants were studied who had been in a 70% concentration of oxygen for thirty-two days. Both had eye changes of the first two grades of retrolental fibroplasia, infant "B" being a little more advanced than infant "A". Instead of being weaned from their oxygen, they were suddenly removed to room oxygen concentration. Infant "A"'s eyegrounds were unchanged for the first four days; then the signs of retrolental fibroplasia regressed. Infant "B"'s signs increased slightly for four days and then regressed. The eyes of both became normal and remained so up to the age of three months, when observation ceased.

No doubt there are other factors that still need to be defined, but these findings in England, America and Aus-

tralia suggest strongly that intensive oxygen therapy plays a part in the production of retrolental fibroplasia and that the effect is not merely due to withdrawal of an infant from a higher to a lower concentration of oxygen. Certainly, as the American group point out, in view of the bizarre manner in which the incidence of the disease fluctuates, additional rigidly controlled observations are necessary to establish this concept. Nevertheless, they must be supported in their conservative statement that there are now sufficient data to question the advisability of the routine use of prolonged high oxygen concentrations in the nursery. If this proves to be the essential clue to the situation and the disease is found to be the result of a misguided attempt to do good, we may yet hope that, as Crosse and Evans put it, in a very few years we shall reach the end of this unhappy interlude in the treatment of the premature infant.

#### FAMILIAL CHRONIC LYMPHATIC LEUCHÆMIA.

LEUCHÆMIA, that baffling and tragic disease, is still one of the unsolved mysteries of medicine. According to Whitby and Britton,<sup>1</sup> there has been of late years, an apparent increase in the incidence of leuchæmia which cannot be explained by improved methods of diagnosis. M. S. Sachs and I. Seeman<sup>2</sup> estimate that the incidence of the disease has almost doubled in the twenty-year period 1922-1940. Little is known for certain about the cause of leuchæmia. It is still considered by some to be the result of "infection"; others believe it is closely allied to malignant disease. It is significant that agents such as indol, tar and benzol which are known to cause malignant disease have been found to produce leuchæmia in animals and sometimes in human beings. S. N. Ardashnikov<sup>3</sup> based a discussion of the genetics of leuchæmia on a study of 33 family trees. He claimed that in some cases at least, hereditary factors play a role in the aetiology of leuchæmia in man. A. Videbaek<sup>4</sup> found 82 cases of familial leuchæmia in an extensive review of the literature; he thought that irregular dominance was the most likely form of inheritance. Any additional evidence as to the part played by heredity in the causation of leuchæmia is therefore of great interest and should certainly be placed on record.

E. B. Reilly, S. I. Rapaport, M. W. Karr, H. Mills and G. E. Carpenter have published a brief report<sup>5</sup> on three brothers who suffered from chronic lymphatic leuchæmia. The first of these died in 1948 at the age of thirty-six years; the precise cause of death was not known. His age at the onset of his leuchæmia was twenty-two years, which is unusual, since chronic lymphocytic leuchæmia is usually discovered after the age of fifty years. This patient had been carefully studied at the Mayo Clinic four years before his death. The second and third brothers, aged fifty-four and fifty-six years respectively, were under treatment at the Veterans Administration Hospital at the time the report was written, and are being kept under observation. This seems to be another illustration of the role of genetic predisposition in the genesis of leuchæmia. We know nothing, of course, of the importance of genetic predisposition in relation to other possible factors. It is probably no more than a latent tendency to the disease. The mode of genetic transmission remains to be clarified. Videbaek thought that irregular dominance was the most likely form of inheritance, but Reilly and his co-workers observe that families such as the present one, in which the disease is apparently confined to several siblings of a single generation, may be explained best by an uncommon recessive gene of high penetrance.

<sup>1</sup> Whitby, L. E., and Britton, C. J. C. (1950), "Disorders of the Blood".

<sup>2</sup> *Blood* (1947), 2: 1.

<sup>3</sup> *J. Hyg.* (1937), 37: 286.

<sup>4</sup> *Acta med. Scandinav.* (1947), 27: 26.

<sup>5</sup> *Arch. Int. Med.* (1952), 90: 87.

<sup>1</sup> *Arch. Ophthalm.*, July, 1952.

<sup>2</sup> *Am. J. Ophthalm.*, September, 1952.

## Abstracts from Medical Literature.

### RADIOLOGY.

#### Unreliable Readings of Photo-fluorograms.

E. GROTH-PETERSEN *et alii* (*Acta tuberc. Scandinav.*, 26:13) have investigated individual variations in the interpretation of photo-fluorograms when some 5000 microfilms were submitted independently to three highly experienced readers. On the average each reader detected only 68% of the "truly positive" cases and found 2.5 "false positives" for each true one. In independent dual reading, on the average each pair of readers found 84% of the "truly positive" cases; but together they found 3.7 "false positives" for each true one.

#### Diastematomyelia with Vertebral Column Defects.

THOMAS N. COWIE (*Brit. J. Radiol.*, March, 1951) states that diastematomyelia is a rare congenital malformation in which, as the name implies, the spinal cord is at some level divided, for a varying distance, into two parts. Several names have been loosely applied to the condition, such as double spinal cord, bifurcation of the cord and diplomyelia, but, in the absence of histological verification of a double cord (with a central canal and duplication of the tracts in the two parts), it is probably advisable to avoid these terms in favour of diastematomyelia, which means simply a fissure of the cord regardless of cause, extent or internal appearance. The condition represents an incipient form of twinning, in which the two lateral extremities of the primitive neural plate, instead of fusing together dorsally, each turns forwards short of the mid-line to meet the neural plate again and form two neural tubes, the forerunners of two complete spinal cords. The commonly associated bony and cutaneous changes in these cases are reasonably explained as secondary mesenchymal and ectodermal reactions to the primary duplication occurring in the neural tissue. The suggestion that the alteration in the spinal cord is due to bony changes is untenable, since the cord condition is not always accompanied by bony changes. One of the most common bone changes is the presence of an intervening osseous or osteochondromatous process between the two cords. The bony process between the two cords is, from the clinical viewpoint, probably the most important feature of the condition. Symptoms, if they occur, are due to traction or pressure of the process on the cord. This explains adolescence as the common time of onset in the reported cases, since it is a period of active but disproportionate growth of the vertebral column and cord. Removal of the abnormal bone is considered to be adequate treatment, and, naturally, the earlier it is performed the more favourable is the prognosis. Consideration of the material available suggests that the following features may be demonstrable: (a) By direct radiography: (i) increase in interpedicular distance; (ii) a near mid-line bony spicule probably attached to the neural

arch; (iii) *spina bifida*; (iv) degrees of fusion of vertebral bodies; (v) wedged vertebrae and hemivertebrae; (vi) fusion of adjacent laminae. (Of these, the first three are of the greatest diagnostic value.) (b) By contrast myelography: (i) widening of the opaque column; (ii) unilateral filling defect at the site of bony changes (due to non-filling around one part of the divided cord); (iii) splitting into two columns for a short distance at the level of bony changes.

#### Thymic Tumours and Myasthenia Gravis.

R. A. KEMP HARPER (*J. Fac. Radiologists*, January, 1952) states that evidence is accumulating that when a patient suffers from *myasthenia gravis* there is abnormality of the thymus in the form of hyperplasia or tumour, and there is no doubt that thymic tumour is present in myasthenics very much more frequently than in non-myasthenics. Those with tumours are much worse operative "risks" than those with only hyperplasia. It has, however, been proved that a course of deep X-ray therapy reduces the operative risk with these tumour patients, and it has therefore become necessary to examine all myasthenics to see if there is a tumour present. The average age at which tumours were found was forty-six years, and it is fairly safe to assume that an anterior mediastinal tumour in a myasthenic patient is almost certainly thymic in origin. On the other hand, a thymic tumour may be found without myasthenia, and it is interesting to speculate whether such patients might eventually develop myasthenia if not operated upon. The tumours may be rounded, lobulated or plaque-like, and it is the last two groups which offer most difficulty in diagnosis, as they are usually attached to pericardium and pleura. It is here that tomography can be very helpful in demonstrating a line of cleavage between the tumour and the aorta and pulmonary artery, and so exclude a dilated aorta or pulmonary conus or artery. If the patient is heavily built or has voluminous breasts, it is difficult to secure the necessary contrast in a plain film, and here again tomography proves very helpful because of its technical advantages and also because the Potter-Bucky grid is used in association with it. These tumours vary considerably in their position in the anterior part of the mediastinum. They may be over a hilum, centrally placed in the mediastinum and completely hidden in the frontal view, or may be attached to the pericardium on either antero-lateral aspect of the heart. They are usually adherent to pericardium, and in some instances are very difficult to dissect from pericardium and pleura. The round or spherical tumour is usually centrally situated and shows as a well-defined outline easily visible in the lateral view, but it may be invisible or nearly so in the frontal film. Some tumours show obvious lobulation and are usually larger in the vertical axis. They are in the main fairly well defined, but, in view of their more extensive contact with the roots of the great vessels, may be difficult to define posteriorly. They may be almost entirely obscured by the mid-line structures in the frontal view, but can be located towards one or other side, when they simulate a dilated ascending

aorta or enlarged pulmonary conus. The plaque-like tumour is the most difficult of all the types to define, and the most easily overlooked, as it may simulate an aneurysm, an enlarged conus, or even a tumour of the hilum of the lung or a large pulmonary artery. Here, careful screening and tomography are absolutely necessary and invaluable in ascertaining the exact nature of the opacity under investigation. Certain of these thymic tumours metastasize, but the secondary masses are usually confined to the thorax, and mainly to the anterior part of the mediastinum and pleura. They may spread before or after extirpation of the tumour; and spread by seeding after operation can be easily understood when one sees the degree of adhesion to pericardium and pleura, which sometimes leads to inadvertent opening of the pericardial and pleural sacs during the dissection of the tumour.

#### Chondro-Ectodermal Dysplasia (Ellis-Van Creveld Disease).

JOHN CAFFEY (*Am. J. Roentgenol.*, December, 1952) describes the clinical and X-ray findings in three cases of chondro-ectodermal dysplasia (Ellis-Van Creveld disease). He states that the condition is a distinct congenital syndrome with several unique components which differentiate it decisively from all other congenital dysplasias and all other types of dwarfism. Constant lesions in all five recorded cases include the following: hypoplasia of teeth and nails; progressive shortening distalward of the bones in the arms and in the legs; bilateral manual polydactylism and polymetacarpalism; symmetacarpalism; bilateral fusion of capitate and hamate bones; retarded maturation of the primary ossification centres of the phalanges with accelerated maturation of their secondary ossification centres in the epiphyseal cartilages; characteristic deformities in the proximal ends of the tibiae, proximal ends of the ulnae and distal ends of the radii. Inconstant lesions include the following: alopecia; fusion of upper lip and its gum; congenital malformation of the heart; dislocation of the heads of the radii; retarded maturation of the manual sesamoids; polydactylism and syndactylism in the feet; polymetatarsalism.

#### Sliding Hiatus Hernia.

JOHN A. EVANS (*Am. J. Roentgenol.*, November, 1952) states that the fundamental and important distinguishing feature between the paraesophageal and sliding varieties of hiatus hernia is the location of the esophago-cardiac junction. In the paraesophageal type, the esophago-cardiac junction remains fixed below the diaphragm, and the closing mechanism at the gastric cardia remains competent; whereas in the sliding type of hiatus hernia, the esophago-cardiac junction is above the diaphragm, forming part of the hernia. The closing mechanism at the gastric cardia in this latter variety is incompetent and allows reflux of gastric acid juices into the lower part of the esophagus. The difficulties in the differential radiographic diagnosis between the clinically important small sliding hiatus hernia and the clinically unimportant small supradiaphragmatic dilatations are stressed. It is shown that the distinguishing differential

feature is frequently not made on X-ray anatomy alone, but rather on the recognition of a physiological defect—namely, the demonstration of incompetence of the gastric cardiac sphincter with reflux of barium into the distal part of the oesophagus. The importance is emphasized of early diagnosis in order to permit surgical correction of the physiologically defective closing mechanism at the gastric cardia and so to prevent the development of chronic oesophagitis, ulceration and stenosis, at which stage surgical correction may not be possible; the condition then becomes a most formidable surgical problem.

#### Diabetes Insipidus and Pulmonary Disease.

JOHN D. SPILLANE (*Thorax*, June, 1952) reports four cases in which there was an association of diabetes insipidus and diffuse pulmonary disease. The first case was one of sarcoidosis, a disease in which diabetes insipidus and other hypothalamo-hypophyseal syndromes occur from time to time. Following a characteristic uveoparotitis with facial palsy, the patient developed hilar lymph-node enlargement and later coarse pulmonary fibrosis and diabetes insipidus. In the second and third cases diabetes insipidus was associated with diffuse pulmonary disease, which caused a fine reticular pattern, of the "honeycomb" type, on the radiograph. In neither case were there any bony lesions on radiological examination. The blood cholesterol levels were 235 and 283 milligrammes per 100 millilitres respectively. It is suggested that these two cases are examples of xanthomatosis affecting the lungs and the pituitary region, and the differential diagnosis from sarcoidosis is discussed. In the fourth case no cystic changes have been demonstrated in the lungs. The Mantoux reaction is positive. The general question of the etiology of cases of diabetes insipidus (and other hypothalamo-hypophyseal syndromes) associated with "honeycomb" lungs is considered in the light of these case reports and of similar ones in the literature. Necropsy studies will be necessary to confirm the true nature of such cases, but they are presumably examples of disordered lipid metabolism.

#### PHYSICAL THERAPY.

##### Palliation of Advanced Cancer by Simple Radiotherapeutic Methods.

M. C. TOD (*J. Fac. Radiologists*, July, 1952) states that one of the principles upon which radiotherapy of cancer should be founded is that it is necessary before beginning treatment to decide whether the aim is cure or palliation. Palliative treatment is given in the hope of relieving existing pain and discomfort, with prolongation of life as a secondary motive. The technique and dosage are carefully chosen to obtain relief with the minimum of reaction. Certain criteria for assessing the palliation obtained are given. Even with these criteria, the assessment remains a matter of personal opinion. The doses delivered are lower than those used in radical treatment; and the over-all times are nearly always short, with a simple arrangement of

fields. There are seven sites where cancer is commonly treated for palliation; these are cancer of the mouth, cancer of the pharynx and larynx, cancer of the oesophagus, cancer of the lung, cancer of the breast, cancer of the uterine cervix, and cancer of the bladder. Of 418 cases of cancer of the mouth treated palliatively 46% showed some palliation. Good palliation was achieved in 32% of cases when the dose used was more than three-quarters of the radical dosage (that is, that used in radical X-ray therapy where cure was the aim); but only 7% of cases showed good palliation when the dose was less than three-quarters of the radical dose. In cases of cancer of the lung, of 464 treated for palliation 44% showed some palliation; and of 63 cases treated by radical small-field beam directed X-ray therapy, 37% showed good palliation. It is in this group, too, that a few apparent cures are obtained. There is no field in which simple forms of X-ray therapy can do more to give comfort than in that of cancer of the breast. Two groups of cases are treated: (i) advanced primary carcinoma of the breast and (ii) recurrent or metastatic carcinoma of the breast following previous treatment. In this series, of 416 cases of cancer of the breast 57% obtained some palliation from treatment. As well as cases of recurrence in the area of the breast and in the axilla, metastatic lesions in the supraclavicular fossa, parasternal region, spine and other bones may be treated. In the case of carcinoma of the uterine cervix and carcinoma of the bladder, the percentages of cases in which some palliation was obtained were 34 and 42 respectively. One point stands out, and that is the need to decide on the correct dose and deliver it; at the same time severe reactions must be avoided in the normal tissue. It is important to keep the volume treated as small as possible. Palliative techniques play an important part in the treatment of cancer by radiotherapy.

##### A Technique for Intracavitary Irradiation of the Bladder.

D. M. T. CONES AND C. GREGORY (*Brit. J. Radiol.*, November, 1952) state that an adequate method has been sought for the irradiation of the whole mucosal surface of the urinary bladder without the general and local effects and painful sequelae of external irradiation. A method previously employed has been to place a central radium source in a Foley type catheter, which is then inflated and left in the bladder. Dosage by this method is neither accurate nor homogeneous, mainly on account of oblique filtration effects with types of radium tubes available. With the advent of radioactive isotopes, new methods have been devised. Radioactive cobalt in solution has been used in a rubber balloon and more recently radioactive sodium and radioactive bromine. Particularly with the first isotope there is a definite hazard to both patient and personnel in the event of leakage or bursting of the balloon during treatment. The radiation from the last two isotopes has a high proportion of  $\beta$  radiation, which gives a low depth dose and would be of no value for growths with some degree of infiltration. The authors have devised a special type of catheter to contain a small volume of metallic cobalt which has been activated to produce the

requisite point source of radiation. A balloon is mounted on the end of the catheter, and designed to reach the required shape and diameter without any stretching of the rubber. Three sizes of balloon have been made, of five, six and seven centimetres diameter. Two cobalt sources, 23 and 46 millicuries of  $\text{Co}^{60}$ , have been available. The insertion of the catheter is through a perineal urethrostomy or by the suprapubic route in the male, and *per urethram* in the female. A dose of 6500r to 7500r delivered at the surface of the balloon has been the aim. Varying methods of fractionation have been tried, and the best method has not yet been decided. It is too early as yet to assess fully the clinical results, but the initial response to treatment has been encouraging.

##### The Clinical Significance of Methods of Estimating Tumour Dose.

G. BODEN AND M. COHEN (*Brit. J. Radiol.*, December, 1952) state that they thought it would be of value to estimate whether there was a difference in dosage level as measured by one radiotherapeutic centre or another, and to evaluate whether the observable discrepancy could be of such degree as to be of significance when considered in relation to the treatment of the patient. Since control had to be effected of all physical factors, it was planned to measure the dosage rates at two centres, in each case by the standard methods of both physics departments, and so to make direct comparisons in a controlled manner. At one centre, the radiation was produced at 250 kilovolt peak with a half-value layer of 1.60 millimetres of copper; and at the other, at 220 kilovolt peak with a half-value layer of 1.15 millimetres of copper. At the first centre, the surface dose rates, as measured by the standard physical methods employed at the two centres, differed by less than 2%, which was considered within the limits of experimental error. At the second centre, measurement of the surface dose rates, similarly made, showed a difference of 6% for large fields. Measurements of the standard percentage depth doses were made at the two centres by the two techniques for two field sizes, a 10-centimetre circle and a 20-centimetre circle. The observed differences for the figures obtained by the two techniques were large, being 11.7% at 10 centimetres' depth for the smaller field and 17.8% at 10 centimetres' depth for the larger field, at one centre; at the other centre the differences were not quite so large. The authors state that it is clear that the experiences of the workers at the two centres will differ. When large fields are used for deep neoplasms, it is obvious that workers at one centre will talk in terms of larger number of röntgens than those at the other. The latter centre will disbelieve the proclaimed dosage levels which workers at the first centre say they deliver. The establishment of optimum tumour dosage is not an easy matter, and the experience of many centres has to be considered. Consequently, it is essential that all workers in the radiation field should speak the same language whenever dosage is mentioned. The authors believe that urgent steps should be taken to introduce some standardization of method in the measurement of dose rates.



## Special Articles for the Clinician.

(CONTRIBUTED BY REQUEST.)

### LVII.

#### TONSILLITIS.

CASES of tonsillitis have been divided by Negus into four groups: (i) catarrhal tonsillitis, (ii) follicular tonsillitis, (iii) parenchymatous tonsillitis, (iv) suppurative tonsillitis. The last-mentioned group may be divided into tonsillar infection and peritonsillar infection or quinsy. For practical purposes, however, the first three differ mainly in degree, and may be considered under the same heading.

#### Acute Tonsillitis.

Acute tonsillitis is due in a little over half the cases to an infection caused by the hemolytic streptococcus, but in the remaining cases the bacteriology is obscure. The numerous organisms which make up the flora of the mouth will, of course, be obtained on culture. The disease is frequently of an epidemic character and is especially prone to occur in schools and camps, or in any place where people are crowded together. It is probable that droplet infection can be caused by doctors or nurses who may be carriers of the causative organisms. It has also been caused by infection from milk obtained from cows suffering from streptococcal mastitis. Naturally the disease is more likely to occur in people who have had previous attacks or in people whose tonsils have been partially removed. In the latter case, as also in the case of those who have calcareous deposits, the damage to the crypts seems to predispose to infection. Infection can also be due to pus coming down from the nose or accessory sinuses.

The initial changes in the tonsils may vary from redness of the tonsils themselves to hyperæmia extending on to the pillars and palate, or may form part of a generalized pharyngitis. The orifices of the crypts become filled with inspissated debris and cells; this material gradually protrudes beyond the surface of the tonsil and may extend over its surface, and by coalescence form larger masses, which in time extend sufficiently to resemble membrane. The material may be wiped away, but forms again. It does not leave a bleeding surface on removal. The process generally involves both tonsils, but the involvement may be of a different degree on the two sides. In the parenchymatous type the substance of the tonsil is more involved with a consequent greater amount of swelling, and in some cases the tonsils may almost meet in the mid-line.

The patient generally complains of a sore throat, which gradually increases in intensity, being aggravated by any attempts to swallow and accompanied by pain radiating up to the ear. This is associated with general malaise, headache and a rising temperature, the latter being generally higher than in other complaints, such as diphtheria, with which it may be confused. The voice is affected by the swelling of the tonsils and the collection of mucus in the throat, and the glands at the angle of the lower jaw are enlarged. It must be remembered, however, that all patients do not complain of sore throat. This is especially true of children, and the old adage that no examination is complete without an examination of the throat must be remembered. Attacks of streptococcal sore throat are often followed in about three weeks by an attack of acute rheumatism or nephritis.

#### Diagnosis.

**Diphtheria.**—In general, diphtheria has a more insidious onset than acute tonsillitis. The inflammation of the throat is less intense, and the membrane is more adherent and spreads more widely involving neighbouring parts. The membrane in tonsillitis does not involve the posterior pharyngeal wall, nose or larynx. The diagnosis of diphtheria may be very difficult, and it is always safer to give the patient an injection of antitoxin while waiting for the report on a swab examination. Even if the patient has been immunized it is safer in cases of doubt to assume that he is suffering from diphtheria until the reverse is proved.

**Scarlet Fever.**—The tonsils are usually involved in the initial stages of scarlet fever. The inflammation, however, is accompanied by a vivid red injection of the whole of the mouth and pharynx and by the strawberry tongue. It must be remembered that tonsillitis is sometimes accompanied by a rash.

**Vincent's Angina.**—The slough covering the ragged ulcers of Vincent's angina is on a level with the surface of the

tonsil, the ulcers are irregular in their distribution, and the gums are generally unhealthy and inflamed.

**Glandular Fever.**—With glandular fever tonsillitis generally arises after the patient has been ill for a few days. The patient will probably have generalized enlargement of the lymphatic glands and of the spleen. The diagnosis will depend on a blood examination and on the Paul-Bunnell reaction.

**Agranulocytic Angina.**—With agranulocytic angina there is a lack of inflammatory reaction in contrast to the ulceration and membrane formation which may be present. There will be a history of the use of one of the drugs likely to cause this condition, generally one of the amidopyrine group or possibly a sulphonamide. The diagnosis will depend on the lack of polymorphonuclear cells in the blood film.

**Acute Leucæmia.**—Throat changes associated with acute leucæmia may at first sight have the appearance of acute tonsillitis. There will, however, be the other symptoms of the disease, but a diagnosis can be made only by means of blood examination.

**Secondary Syphilis.**—Throat changes associated with secondary syphilis may possibly be mistaken for acute tonsillitis, but failure to respond to treatment and presence of the Wassermann reaction will establish the diagnosis.

It is interesting to record that Anderson and his co-workers found that whereas with streptococcal infections headache, vomiting, sweating and chills predominated, the non-streptococcal infections were more clearly referable to the respiratory tract; that is, sneezing, stuffy nose or cough predominated.

#### Treatment.

It must be remembered that the majority of cases are not of a very severe type. Anderson and others (Anderson, 1949; Anderson *et alii*, 1951) have recorded that out of 100 sore throats for which medical advice is sought at least 70 subside in forty-eight hours without treatment. In most cases 10 grains of aspirin in warm water, taken as a gargle and then swallowed, every four hours will give more comfort than anything else. Inhalations containing *Tinctura Benzoini Composita* are soothing, especially if there is associated annoying dryness of the mucous membrane. When much stringy mucus is present in the pharynx, mouth washes of an alkaline nature may be used, or the mouth and pharynx may be syringed out with the solution. With more severe cases penicillin may be used; it may be given either parenterally or alternatively as penicillin lozenges. It must be remembered that the latter are effective only so long as they are kept in the mouth, and patients must be encouraged to keep them between the teeth and buccal mucous membrane as long as possible. The use of sulphonamides in the treatment of tonsillitis has been attacked over recent years. Anderson and his co-workers and also Macdonald and Watson published figures on this subject in 1951. Patients were treated alternately with sulphonamides or lactose tablets. Both groups of workers concluded that there was no difference between controls and treated patients in the speed of recovery from various symptoms. Macdonald and Watson (1951), however, remarked that "the medical officer in clinical charge was, however, able to make an estimate of 'goodness of cure' which had a significant relationship to administration of sulphatriad". Anderson states that J. O. French conducted investigations of scarlet fever subjects and was unable to observe any beneficial effect on the throat or on the duration of pyrexia in those given sulphanilamide. It is obvious, of course, that when the disease shows a natural tendency to rapid cure one must be careful about claiming results from any form of treatment. It has been stated that an occasional mild attack of tonsillitis may be no bad thing, for it helps to stimulate immunity mechanisms, and we are then better able to deal with later attacks.

#### Chronic Tonsillitis.

Chronic tonsillitis generally follows one or more attacks of acute tonsillitis. The tonsils are inflamed and the inflammation generally extends to the anterior pillars. Hypertrophy may or may not be present. The crypts may become enlarged and contain an unusually large amount of debris, which may have a foul smell or taste. Hypertrophy of the tonsils frequently occurs in children and is of no importance unless the airway is actually interfered with. This is, of course, very rare. The presence of debris in the crypts is generally of no significance unless it becomes offensive, but in certain cases actual pus may be expressed from the crypts or supratonsillar fossa. The symptoms of chronic tonsillitis are recurring attacks of acute tonsillitis

or of mild sore throats localized in the tonsillar region. Some patients complain of a chronic sore throat localized in this area. Chronic or recurring enlargement of the tonsillar lymph gland may also be present. Peritonsillar abscess or quinsy is generally a complication of chronic tonsillitis.

The treatment of tonsillitis is surgical removal of the tonsils, but it may be very difficult in some cases to decide when this is justifiable. In recent years most people have come to believe that tonsillectomy has no influence on general diseases other than those which appear to be associated with *Streptococcus pyogenes* infection of the throat, namely, rheumatic fever and nephritis (Gale, 1951), and some people doubt whether the operation has any effect on the condition once it is established. However, if the patient continues to have signs of tonsillar trouble associated with an increase in the severity of the general infection, then it is obvious that the tonsils should be removed. It has been abundantly proved by now that the incidence of ordinary colds as distinct from tonsillar sore throats is not affected by tonsillectomy. Allergy is a contraindication to tonsillectomy unless there is definite evidence of infection.

The indications for tonsillectomy may be roughly summarized as follows:

1. The rare cases in which hypertrophy of the tonsils interferes with the patient's airway.
2. Chronic sore throat localized in the tonsillar area.
3. Attacks of recurring sore throat.
4. The presence in the crypts of foul-tasting caseous material which is becoming a nuisance to the patient.
5. General diseases due to *Streptococcus pyogenes* when the condition of the tonsils is in doubt.
6. A diphtheritic carrier state when other treatment has failed.
7. Peritonsillar abscess. Tonsillectomy is usually performed when the condition is in the quiescent stage some weeks after the attack. Some writers believe that the tonsils should be removed during the attack, and this is undoubtedly safer nowadays when a cover of chemotherapy can be used than it was some years ago. On the other hand, with modern methods of treatment the patient suffering from peritonsillar abscess does not usually suffer as much as of old and frequently the attack is aborted. In most cases one can wait until definite fluctuation is present and then incise the abscess.

The incidence of poliomyelitis in patients who have had their tonsils removed has been investigated over recent years, but no definite statement can be made about the comparative frequency of the disease in patients who have and have not undergone tonsillectomy. There does, however, appear to be definite evidence that the incidence of bulbar poliomyelitis is higher among those who have recently undergone tonsillectomy, and for this reason it is probably advisable not to perform the operation during an epidemic of poliomyelitis unless it is absolutely necessary.

R. M. GLYNN,  
Adelaide.

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## British Medical Association News.

### ANNUAL MEETING.

THE annual meeting of the Tasmanian Branch of the British Medical Association was held at the Tasmanian Museum, Hobart, on February 14, 1953, Dr. T. GIBLIN, the President, in the chair.

#### Annual Report of the Council.

The annual report of the Council which had been circulated among members was taken as read, received and adopted on the motion of Dr. F. R. Fay, seconded by Dr. J. B. G. Muir. The report is as follows:

The Council has pleasure in presenting the annual report of the Branch for the year ended December 31, 1952.

Membership of the Branch now stands at 208 compared with 198 at the beginning of the year.

#### Meetings.

Eleven meetings of the Branch Council were held since the last report and the attendance was as follows:

Dr. C. Clarke . . . . . 7	Dr. T. Giblin . . . . . 8
Dr. G. M. W. Clemons . . . . . 8	Dr. B. Hiller . . . . . 9
Dr. F. R. Fay . . . . . 11	Dr. R. A. Lewis . . . . . 10
Dr. R. O. Green . . . . . 9	Dr. J. B. G. Muir . . . . . 11
Dr. L. N. Gollan . . . . . 1	Dr. A. McL. Millar . . . . . 11
Dr. R. A. Godfrey-Smith . . . . . 8	Dr. A. Pryde . . . . . 7

Dr. Gollan attended the first meeting only as he relinquished the secretaryship of the Northern Division and ceased to be a member of the Branch Council.

At the beginning of this year Hobart had the pleasure of having a meeting of the Federal Council of the British Medical Association held here, and the annual dinner was honoured by the presence of most of the representatives from other States. The dinner was held at Hadley's Hotel. As Sir Earle Page, Federal Minister for Health, was also in Hobart, he was invited and spoke at the gathering. While the Federal representatives were here they were entertained by your Branch Council at a luncheon, and were taken for drives.

#### General.

Over the last twelve months the Federal Health Minister has introduced the third phase of his National Health Scheme, namely, voluntary health insurance. As a result, much of the Branch Council's deliberations have been concerned with this and also with the Pensioner Medical Service and the *Pharmaceutical Benefits Act*. A major feature of these deliberations concerned the establishment in Tasmania of a branch of the Medical Benefits Fund of Australia, which at the time was functioning successfully in New South Wales and Queensland. Fortunately, several of the members of Federal Council were able to give your Council details of the organization, and these were passed on to members of the Branch at divisional meetings. The manager of the New South Wales Branch of the Society also visited Tasmania to estimate prospects of success and to address members. Following this, members decided that it would be advantageous to establish a branch of the fund in Tasmania, and after over 30% of British Medical Association members had denoted their interest by subscribing £10 and becoming medical members, the fund was set up in Hobart. It is understood that it has been well received by the public, and in spite of the spate of competitive societies formed consequent upon the introduction of the Hospital Benefits Scheme, it has done even better than expected.

Following pressure from the Federal Government, the Tasmanian Government has abandoned free treatment for in-patients at public hospitals, there now being a daily charge at the flat rate of one guinea. There is still no charge on out-patients, and no means test. This move was followed by both Commonwealth and State Governments ceasing to pay the visiting staff for in-patient and out-patient services respectively. Your Branch Council strongly protested at this unusual method of economy, namely, to stop the payment of a section of the staff of hospitals. The Branch Council has registered its protest to the State Minister for Health on this matter on two occasions, and pressed for resumption of payment of the visiting staff. The delegates who met the Minister recently were informed by him that the principle of payment of visiting staff was accepted by the Government and he was prepared to recommend that allowance be made for it in the budget estimates for next year, but it is understood that Cabinet has refused this.

The Pensioner Medical Service has also taken up much of the Council's time, especially in regard to rates of remuneration. This subject was discussed at divisional meetings and the recommendations framed there considered at Federal level. Finally a fee of 9s. per consultation and 11s. per visit (*plus* mileage) was accepted by all States. Within the last few months the Federal Minister for Health has introduced a regulation to give effect to the long sought disciplinary committees which the British Medical Association has advocated. These are to be called Committees of Inquiry, and will have considerable powers with regard to taking evidence in inquiry into complaints of abuse under the National Medical Scheme.

BRITISH MEDICAL ASSOCIATION.  
TASMANIAN BRANCH.  
Headquarters Fund Account, 1952.

January 1, 1952.			December 31, 1952.		
	£	s. d.		£	s. d.
To Balance .. .. .	212	4 11	By Balance .. .. .	217	0 8
„ Interest .. .. .		4 15 9			
	£217	0 8		£217	0 8

Balance Sheet as at December 31, 1952.

LIABILITIES.				ASSETS.			
	£	s. d.	£	s. d.		£	s. d.
Capital Account—					English, Scottish and Australian Bank, Limited ..	757	5 8
Balance, 1951 .. .. .	1,884	2 8			Commonwealth Treasury Bonds .. .. .	860	0 0
Surplus, 1952 .. .. .	202	3 3			Australasian Medical Publishing Company, Limited—Debentures .. .. .	426	6 3
Publishing Company—Debentures .. .. .	117	15 0	2,204	0 11	War Saving Certificates .. .. .	133	0 0
War Relief Contributions .. .. .			2	11 0	Furniture—Cupboards .. .. .	30	0 0
			£2,206	11 11			

Income and Expenditure Account for Year ended December 31, 1952.

	£	s. d.	£	s. d.		£	s. d.	£	s. d.
To Secretary's Salary .. .. .			260	0 0	By Members' Subscriptions .. .. .			1,482	9 0
„ Printing, Typing, Stationery and Duplicating (Including Newsletters) .. .. .			170	0 2	„ Refund Deposit Wrest Point .. .. .			2	0 0
„ Postages, Duty Stamps, Telephone and Telegrams .. .. .			57	2 10	„ Interest—				
„ Mercury Newspapers .. .. .			3	7 6	„ Debentures .. .. .	15	18 10		
„ Travelling Expenses—					„ Commonwealth Loans .. .. .	27	11 6	43	10 4
Branch Council .. .. .	78	15 0			„ Sale of Car Badges .. .. .			45	4 0
Secretary .. .. .	3	15 0							
			82	10 0					
„ Rental re Annual Meeting .. .. .			1	5 0					
„ Wreath .. .. .				12 6					
„ Annual Dinner .. .. .	110	0 0							
„ Less Refunded .. .. .	87	10 0	22	10 0					
			3	3 0					
„ Code Address .. .. .									
„ Capitation Fees—									
Federal Council .. .. .	207	18 0							
Australasian Medical Publishing Company, Limited .. .. .	198	0 0							
British Medical Association, London .. .. .	182	6 6							
Southern Division .. .. .	58	0 0							
Northern Division .. .. .	41	0 0	687	4 6					
„ Bank Charges .. .. .	2	6 0							
„ Less Received .. .. .		2 0							
			2	4 0					
„ Car Badges .. .. .			81	0 7					
„ Surplus .. .. .			202	3 3					
			£1,573	3 4				£1,573	3 4

This year saw further negotiations between British Medical Association representatives and the underwriters with respect to workers' compensation fees. Eventually a scale of fees, a compromise between the old scale and the present New South Wales scale, was agreed upon. Your representatives found out that the premiums for workers' compensation insurance were 30% lower in this State, so there was some argument for lower fees. However, the representatives managed to get all the common procedures at the New South Wales rate. We are now concerned about the total sum available to an injured worker to pay his hospital and medical fees, as the present limit of £75 would only suffice for about three weeks in a private hospital.

Due to the generosity of Sir Edward Hallstrom, of Sydney, the State Government was able to afford to set up the clinics in Hobart and Launceston for the detection of some forms of cancer. The staffing of these clinics was discussed

at divisional meetings, and provided that any medical practitioner who applied should be eligible to staff the clinic, the British Medical Association was prepared to recommend to members that they cooperate. This was designed to prevent these clinics becoming specialist clinics. As this was accepted, the clinics commenced in July and several sessions are held weekly. Remuneration is at the rate of five guineas per session of three hours. Insurance of participating doctors against claims for missed diagnosis of cancer has been taken out.

Repatriation matters have been before the Branch lately, especially the offer of the department to pay one shilling extra per visit to local medical officers on the pretext that this brings local medical officers in line with the concessional rate in the treatment of pensioners. This association of repatriation fees with a concessional fee offered to pensioners is regarded with alarm as a dangerous indication



of the possibility of Commonwealth departments attempting to get all medical services at the lowest rates that doctors are prepared to offer to the poorer sections of the community. The absence of any give and take in the Repatriation Department is evidenced by the fact that some time ago the British Medical Association recommended that the one guinea fee for intramuscular injections was too high and suggested that 15s. was adequate. The department welcomed this and showed its appreciation by offering 1s. extra per visit to local medical officers. Later information was that this had been increased to 2s. 6d.

The subject of fees for emergency treatment of repatriation cases on holidays and week-ends by non-repatriation doctors and by local medical officers who have not got the entitlement card of the case which was discussed at divisional meetings has been referred to Federal Council for opinion.

Our Federal Council representatives, Dr. Giblin and Dr. Muir, have been reappointed for a further year. The Branch Council records appreciation of their willing and competent services in the past both in taking Tasmanian views to Federal Council and in explaining Federal Council moves to us.

It is with pleasure that the Branch Council has been informed that as from January, 1953, Dr. H. E. Lines is elected a life member of the British Medical Association as he has been a member for fifty years.

This year saw the introduction of distinctive car badges for doctors in Tasmania, and so far 63 have been purchased. We are not sure what privilege, if any, they give their bearers, but they have acted as a source of envy to those members of the motoring public who like to decorate their cars. It is hoped that they will be of assistance in parking.

Apart from the Ethics Subcommittee which has held four meetings, there has been little activity amongst the subcommittees of the Branch Council. The work of the Workers' Compensation Subcommittee in meeting the underwriters has been mentioned. The Publicity Subcommittee prepared a Press statement which did not have to be published; it dealt with the withdrawal of payment of visiting medical staff at public hospitals. The Rules Subcommittee may have met, but as their deliberations after several years are still unproductive, your Council has decided to recall the matter to Council level and study their results to date, and try to speed up the production of new rules.

The official Newsletter has been published nine times and has tried to keep members informed of Branch Council activities.

FRANKLIN R. FAY,  
Honorary Secretary.

#### Financial Statement.

The financial statement for the year 1952 was presented by the Honorary Treasurer, Dr. Berthold Hiller, and adopted on the motion of Dr. Hiller, seconded by J. M. Gunson.

#### Election of Office-Bearers.

The President announced that the following had been elected office-bearers for the year 1953.

*President-Elect:* Dr. J. B. G. Muir.

*Vice-President:* Dr. A. Ormond Green.

*Honorary Secretary:* Dr. F. R. Fay.

*Honorary Treasurer:* Dr. Berthold Hiller.

*Members of Council:* Dr. A. M. Millar, Dr. D. H. Waterworth, Dr. P. Braithwaite.

#### Reports of the Divisions.

The report of the Northern Division was presented by Dr. L. N. Gollan and a draft report of the Southern Division was read by Dr. R. A. Lewis. The President explained that these were for the information of members.

#### Induction of President.

Dr. T. Giblin then vacated the chair in favour of Dr. A. Pryde, the President for 1953. Dr. Pryde thanked the members for his election.

#### Retiring President's Address.

Dr. T. Giblin then read his retiring president's address (see page 393). A vote of thanks was accorded to Dr. Giblin on the motion of the President, Dr. A. Pryde.

#### SOUTH AUSTRALIAN BRANCH NEWS.

THE Secretary of the South Australian Branch of the British Medical Association has sent the following information.

##### Memorial to the Late Sir Trent de Crespigny.

The Council of the South Australian Branch of the British Medical Association has decided to open a fund to found a memorial to the late Sir Trent de Crespigny. It has planned to form a collection of medical books of historic interest, to be known as the Sir Trent de Crespigny Memorial Library and to be kept in a bookcase in the future home of the Branch. Donations are therefore solicited, and in order to make the response as widespread as possible an upper limit of five guineas per gift is suggested.

#### Out of the Past.

*In this column will be published from time to time extracts, taken from medical journals, newspapers, official and historical records, diaries and so on, dealing with events connected with the early medical history of Australia.*

##### PHYSICIANS, SURGEONS, OCULISTS AND DENTISTS IN VICTORIA.<sup>1</sup>

[*Medical Record of Australia*, Melbourne, July 25, 1862.]

The number of physicians, surgeons, oculists and dentists in Victoria amount to 592. Of this number 4 are females. In addition there are 61 Chinese and aborigines.

There are also 1022 persons—528 males and 494 females—following the occupation of chemists, sick nurses and hospital attendants.

#### Special Correspondence.

##### CANADA LETTER.

By OUR SPECIAL CORRESPONDENT.

THIS letter will consist of notes on a visit to Riverside Hospital for Drug Addicts, North Brother Island, Bronx, New York, United States of America.

The hospital was opened on July 1, 1952, to serve known addicts under the age of twenty-one years. All addicts must enter the hospital on a court order, and this order binds them to treatment and follow-up under the auspices of the hospital for a three-year period. Volunteers must enter through the same mechanism and are bound by the same three-year order. A person entering the hospital under the age of twenty-one years will be followed for the three-year period, despite the fact that all addicts over twenty-one years of age may be sent voluntarily to Lexington, Kentucky, or Fort Worth, Texas, to the Federal institutions. It should be emphasized at the very outset that the Riverside Hospital is a hospital and that the entire direction of this rehabilitation effort is medical. The emphasis is medical and not police.

##### Screening.

No addict is admitted to the Island, which lies in the East River, about fifteen minutes' ferry run from the foot of 134th Street, until he has been screened at a screening clinic, which operates in conjunction with the Narcotic Term Court at 100 Centre Street, New York City. Many of the addicts referred to the hospital or applying for admission are bound to be psychiatrically unsuitable and are not accepted for rehabilitation. Patients who are frankly psychotic at the screening clinic, or who develop frank psychosis while at Riverside, are sent to Bellevue Hospital, Psychiatric Division. In addition, some who have been taken to the Riverside Hospital have had to be returned to Bellevue Hospital, as their psychiatric incapacity to profit from the rehabilitation has been demonstrated on the Island. Though few in number, these rejects, after screening, have a rather contagious influence on the Island, as for instance latent homosexuals.

<sup>1</sup> From the original in the Mitchell Library, Sydney.

The screening is done by a psychiatrist, a social worker and a clinical psychologist at Bellevue Hospital. One very striking fact so far, in the work, is that, in general, those addicted are not normal people. They have had latent psychiatric problems and have deviated from the normal for a long time—as a matter of fact, for the major part of their lives. They have not low intelligence quotients. Constitutionally, therefore, many of the addicts are abnormal. From the point of view of environment also, large numbers have come from an abnormal social background, and it is important to recognize that in many cases this abnormal environment reflects psychopathy in the parents.

#### Programme of Rehabilitation.

The programme for rehabilitation is simplified greatly by the fact that all candidates for rehabilitation coming to the Island are under the age of twenty-one years. The hospital has accommodation for 150 addicts, there being at present 47 in residence. The smooth running of the rehabilitation programme depends greatly on the motivation of the referred addicts. Psychopaths love to get into Riverside Hospital and set about controlling the situation and working the system for all that it is worth. Once these are weeded out, the relatively serious constituents can be given a chance. An excellent school is provided, called "Public School 619". It is one of the schools classed by New York City as "special schools". The principal is a doctor of jurisprudence, with many years' experience in special classes. He is a man of fifty to fifty-five years of age, with many talents and a real interest in rehabilitation through sound educational procedures. He is assisted by a number of specialist teachers. The first such teacher met was the home economics teacher, whose pupils are largely boys. A very accomplished teacher of ceramic arts was demonstrating to new recruits the use of the potter's wheel when I visited the school. The large gymnasium was also in use, and a woodworking shop had just been set up. A Negro art teacher was conducting a class in painting and had some very interesting and psychiatrically significant paintings by the addicts to show us. The gymnasium doubles as a recreation hall and is used for dancing. A Hallowe'en party was being prepared for. All the work of decorating and the making of special favours was in the hands of a teacher assisted by a large group of addicts.

#### Buildings.

The hospital was built as a tuberculosis unit in 1941, but was never used for that purpose because of the outbreak of war. The various armed services used it, and after the war it was used to house veterans. It has been completely refurbished and redecorated and is in first-class shape. Mostly the units are of two beds or four beds. There are no large wards. Excellent common rooms are provided on each floor, with radios, television sets and so on. The entire Riverside project is medical. Even the matter of security on the Island is medically administered. It is under the City of New York, in regard both to its hospital and to its school. The United States Coastguard still has buildings on the southern tip of the Island, but is in no way concerned with the unit. Even greater distance from the City of New York would aid in carrying out the rehabilitation in the view of the director.

#### Staff.

The staffing of such an institute presents a problem, because though the duties are very specialized, the pay is not always so. The question of motivation in the day-to-day help presents many problems. Rotation of resident medical officers provided from New York City is relatively unsatisfactory at the moment, because each resident officer stays for one month only. However, it is to be hoped that a three-month, six-month or one-year residency can eventually be established, with the help of Bellevue Hospital. All the psychiatrists who serve the hospital come over at pre-arranged times and are paid \$25 per session, which last about three hours. It is arranged that these psychiatrists will, of course, see the patients in the first instance at the screening clinic and will follow up their own cases at the out-patients' reporting clinic about to be described. It should be emphasized again that motivation of personnel serving on the Island is all-important. It is not satisfactory to have men assigned to this work as part of an over-all routine. Their interest in the problem posed by these particular patients must be the over-riding consideration. It is hoped that Riverside Hospital can definitely be classed as a teaching hospital, in order that the professorial supervision and the residency training available will be recognized by the respective National Boards. On the matter of

training, Dr. Leon said that he would give very favourable consideration to applications which might be made to him for the contact and special training of personnel from other areas where addiction was a problem. He emphasized repeatedly the fact that Riverside Hospital was not set up as any cut-and-dried answer to the problem, but rather as an open-minded pilot plant, seeking to make a scientific and medical attempt to rehabilitate salvageable addicts. In this sense, therefore, the hospital is an experiment and is being conducted in such a manner as to provide reliable data to other projects which will have to be set up in other parts of the continent.

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#### Conclusion.

Speaking briefly, one can say that the Riverside Hospital is a medically controlled and orientated pilot plant for the rehabilitation of the screened addicts under the age of twenty-one years, who have been ordered by a court, whether for those in custody or those volunteering for rehabilitation, for a period of three years, for the combined supervision of Riverside Hospital and its follow-up clinic in the City of New York.

#### NEW ZEALAND LETTER.

BY OUR SPECIAL CORRESPONDENT.

THE biennial conference of the New Zealand Branch of the British Medical Association was held at Auckland from February 10 to 13, 1953. Some 400 enrolled members met at Auckland University College. Kenneth MacCormick, C.B., C.B.E., D.S.O., E.D., F.R.C.S., of Auckland, presided. The delegate from the parent body was Denis Brinton, of St. Mary's and Queen Square, London; he spoke on the selection of medical students, on cervical disk lesions, and on cerebral vascular accidents. John Loewenthal, F.R.C.S., of Royal Prince Alfred Hospital, Sydney, was also an official visitor and spoke on peripheral vascular degeneration, chronic leg ulcer, and kindred topics. Dr. R. D. Lawrence, of London, was to have been an official visitor, but transport difficulties delayed his arrival until after the conference was over.

A full programme of sectional meetings and combined meetings of sections included discussions on mitral valve surgery, hypno-analysis, mycological diagnosis, prostate surgery, leucotomy, tuberculosis, rheumatology, treatment of hypertension, fenestration operations, radiotherapy, and the medical aspects of atomic warfare. A valuable session was one on problems of present-day prescribing, presented by a departmental officer and a practitioner. The various special societies met during the week, and a meeting of the Branch Council and the annual general meeting of the Branch were also held. A useful trade exhibition ran currently throughout the week.

The social side included an afternoon party at the Ellerslie racecourse, a civic reception by the Mayor of Auckland, at which the Minister of Health spoke, a moving memorial oration at the War Memorial Museum by Major-General Barrowclough, a dinner, a picture party, a ball in the Town Hall, and a launch picnic. The ladies were entertained by motoring and luncheon parties.

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##### DOCTORS AND THE NEEDS OF THE COMMUNITY.

SIR: In your issue of January 24, 1953, there appears a pessimistic letter suggesting that one doctor to 800 inhabitants is sufficient. This old-fashioned idea must be based on clinical considerations alone. No account has been taken of the glorious new science of social security and its

sturdy growth, ably assisted by all political parties. The amount of writing associated with each pensioner consultation can only be regarded as the first faltering steps towards a golden future. By the time that everyone is socially secure it is reasonable to suppose that rather more than one doctor specializing in the subject will be required merely to provide certification for 800 patients, and there will still be a dearth of doctors to do the lesser toil associated with clinical work. It is to be hoped that these specialists in certification will have short names.

Yours, etc.,

Wongan Hills, Western Australia,  
FREDERIC THOMAS BAILE LOVEGROVE.  
February 17, 1953.

#### SUDECK'S POST-TRAUMATIC OSTEODYSTROPHY OF LIMBS.

SIR: I have read with great interest the report of Dr. Thomas Rose of two cases of Sudeck's disease in the journal of February 7.

The prognosis given by the author is a very gloomy one, but according to recent developments we are justified in being more optimistic. Professor Wachsmuth, of Würzburg University, used ultrasonic treatment in 16 cases of Sudeck's post-traumatic dystrophy, of which 15 were cured or considerably improved. All cases were treated in the second stage of the disease, where osteoporosis was already demonstrable by X rays and the typical alterations had taken place in the soft parts, but before atrophy had set in. Eight patients had the upper extremities affected, and eight the lower. In the one upper arm case which did not respond to treatment there was a lesion of the brachial plexus following a severe injury of the shoulder, and the symptoms indicated trophic changes. The average age of the patients was fifty years, and the average time between the injury and commencement of ultrasonic treatment was three months. The early relief of the intense pain from which the patients had suffered, often for months, was an especially welcome effect, while the changes in the soft parts also disappeared. Recalcification began very early. Nine cases were fit to work after a period of treatment lasting from three to ten weeks. The ultrasonic head was applied over the corresponding segment of the sympathetic chain, and treatment was carried out two to three times a week.

In order to prove that the function of the vessels had returned to normal, serial arteriograms were made both of the healthy and of the dystrophic extremities. In the former the opaque medium normally had passed out through the veins and could no longer be seen after forty to fifty seconds, but in the dystrophic limbs there was a considerable amount of opaque medium in the veins even after two minutes. Similar tests carried out after completion of the course of ultrasonic treatment showed no difference between the formerly dystrophic and the normal limbs.

It would appear that this form of treatment is well worth a trial before the disease becomes too far advanced, as the probability of success is high and there is no risk involved.

Yours, etc.,

Laurieton, 2c,  
New South Wales,  
February 22, 1953.

ELLA CHAMBERS.

#### Reference.

WACHSMUTH, W. (1949), "Ultraschall bei Sudeckscher Krankheit", "Der Ultraschall in der Medizin", Hürzel, Zürich.

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In reference to the patient concerned, I first saw her on the fifth day of her illness and operated on her two hours after admission to hospital, when she was obviously suffering from a large bowel obstruction. The surprising thing, in retrospect, was that there were no symptoms or signs referable to this necrotic pancreas, so that enzyme estimations were not considered, nor were they necessary for the correct management of this case. The post-operative estimations, which were normal the day after the operation, were done as a matter of interest. Had they been carried out just before the operation, they would again, almost certainly, have been normal and not helpful in the diagnosis.

Yours, etc.,

141 Macquarie Street,  
Sydney,  
February 23, 1953.

T. F. ROSE.

#### Obituary.

##### CONSTANTINE TRENT CHAMPION DE CRESPIGNY.

We are indebted to Sir Henry Newland for the following appreciation of the late Sir Constantine Trent Champion de Crespiigny.

On the sunny Sunday morning of June 11, 1950, I chanced to meet Sir Trent on North Terrace Adelaide. He appeared to be in the best of health and spirits. As I was to fly to Darwin en route to England the next day, we said goodbye. His son, Dr. Geoffrey de Crespiigny, who was flying to England from Sydney on the same plane on which I was to continue my flight, had bad news for me when we met at Darwin. I learned that Sir Trent had suffered a coronary occlusion on the day I left Adelaide, and was critically ill. From that time until his death on October 27, 1952, his life was a struggle against ill health. He was compelled to curb his professional activities, a restriction at which he chafed.

Constantine Trent Champion de Crespiigny was born at Queenscliff, Victoria, on March 5, 1882. He was the second son of the late Philip C. de Crespiigny, at one time general manager of the Bank of Victoria, who married Annie Chauncy, daughter of Philip Lamotte Snell Chauncy. This family traced its ancestry to Robert Bigod or Bigot, Earl of Norfolk, and Charlemagne. As a de Crespiigny landed with William the Conqueror, Sir Trent's lineage was a distinguished one. Of this he had good reason to be proud. De Crespiigny was educated at Brighton Grammar School and Trinity College, Melbourne. He passed the final examination for the M.B., Ch.B. degrees with honours in 1903 and later on the examination for the M.D. degree in the same brilliant manner. He took little interest in sport, apart from boxing. Between 1904 and 1908 he held resident appointments at the Melbourne Hospital and the Melbourne Women's Hospital. He devoted much attention to pathology under the late Professor Allen, whom he greatly revered. This valuable experience furnished him with the best of all foundations for his career as a medical consultant. Private practice in the western district of Victoria took him from Melbourne for a short period. He returned to Melbourne to practise at Fitzroy and was elected honorary physician to Saint Vincent's Hospital.

It was a fortunate event for him and for the University of Adelaide medical school when in 1908 he was appointed medical superintendent of the Adelaide Hospital. He at once demonstrated his outstanding qualities, administrative and scientific, in this responsible position. After four years' service, he relinquished the appointment to engage in practice as a specialist physician. His success was assured. He was elected to the honorary staffs of the Adelaide and the Adelaide Children's Hospitals. In 1912 he was appointed director of the Adelaide Hospital pathological and bacteriological laboratory, honorary pathologist to the hospital and lecturer in pathology in the medical school (1912-1919). From the time of his arrival in Adelaide de Crespiigny closely associated himself with the medical service of the Commonwealth Defence Force and held a commission. On the outbreak of World War I he volunteered for service overseas and sailed in the *Mooltan* with the rank of lieutenant-colonel in the Australian Army Medical Corps. He served first as registrar and secretary of the Third Australian General Hospital, at that time in Egypt. He afterwards commanded that hospital on Lemnos (in the Gallipoli campaign) and later on the First Australian General Hospital at Rouen in France. In January,



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WE are indebted to Sir Henry Newland for the following appreciation of the late Sir Constantine Trent Champion de Crespigny.

On the sunny Sunday morning of June 11, 1950, I chanced to meet Sir Trent on North Terrace Adelaide. He appeared to be in the best of health and spirits. As I was to fly to Darwin en route to England the next day, we said goodbye. His son, Dr. Geoffrey de Crespigny, who was flying to England from Sydney on the same plane on which I was to continue my flight, had bad news for me when we met at Darwin. I learned that Sir Trent had suffered a coronary occlusion on the day I left Adelaide, and was critically ill. From that time until his death on October 27, 1952, his life was a struggle against ill health. He was compelled to curb his professional activities, a restriction at which he chafed.

Constantine Trent Champion de Crespigny was born at Queenscliff, Victoria, on March 5, 1882. He was the second son of the late Philip C. de Crespigny, at one time general manager of the Bank of Victoria, who married Annie Chauncy, daughter of Philip Lamotte Snell Chauncy. This family traced its ancestry to Robert Bigod or Bigot, Earl of Norfolk, and Charlemagne. As a de Crespigny landed with William the Conqueror, Sir Trent's lineage was a distinguished one. Of this he had good reason to be proud. De Crespigny was educated at Brighton Grammar School and Trinity College, Melbourne. He passed the final examination for the M.B., Ch.B. degrees with honours in 1903 and later on the examination for the M.D. degree in the same brilliant manner. He took little interest in sport, apart from boxing. Between 1904 and 1908 he held resident appointments at the Melbourne Hospital and the Melbourne Women's Hospital. He devoted much attention to pathology under the late Professor Allen, whom he greatly revered. This valuable experience furnished him with the best of all foundations for his career as a medical consultant. Private practice in the western district of Victoria took him from Melbourne for a short period. He returned to Melbourne to practise at Fitzroy and was elected honorary physician to Saint Vincent's Hospital.

It was a fortunate event for him and for the University of Adelaide medical school when in 1908 he was appointed medical superintendent of the Adelaide Hospital. He at once demonstrated his outstanding qualities, administrative and scientific, in this responsible position. After four years' service, he relinquished the appointment to engage in practice as a specialist physician. His success was assured. He was elected to the honorary staffs of the Adelaide and the Adelaide Children's Hospitals. In 1912 he was appointed director of the Adelaide Hospital pathological and bacteriological laboratory, honorary pathologist to the hospital and lecturer in pathology in the medical school (1912-1919). From the time of his arrival in Adelaide de Crespigny closely associated himself with the medical service of the Commonwealth Defence Force and held a commission. On the outbreak of World War I he volunteered for service overseas and sailed in the Mooltan with the rank of lieutenant-colonel in the Australian Army Medical Corps. He served first as registrar and secretary of the Third Australian General Hospital, at that time in Egypt. He afterwards commanded that hospital on Lemnos (in the Gallipoli campaign) and later on the First Australian General Hospital at Rouen in France. In January, 1918,

after an appendicectomy in London, he returned to South Australia on furlough, but was soon back in London again as consulting physician at the Australian Military Headquarters in Horseferry Road. During the previous year he had been promoted to the rank of colonel and had been awarded the Distinguished Service Order. He was twice mentioned in dispatches. He finally returned to South Australia in May, 1919, and was placed on the reserve of officers.

On resuming practice he had not to wait for patients; indeed, he soon had a long waiting list. As the years went by his eminence as a physician was increasingly recognized, not only in South Australia but throughout the Commonwealth. Demands on his time and the laudable desire to make way for a younger man led him to resign his position as honorary physician to the Children's Hospital. He was president of the South Australian Branch of the British Medical Association in 1925-1926. He was a founder of the Royal Australasian College of Physicians; he was elected a vice-president and subsequently he attained the high office of President in 1942-1944. In 1928 he was President of the Section of Medicine of the Australasian Medical Congress in Sydney. For several years de Crespigny was Dean of the Faculty of Medicine. It was a disappointment to him that he failed to secure election to the University Council when he was lecturer in medicine.

In later years his chief interest, other than his exacting practice, was in the duties connected with the chairmanship of the council of the Institute of Medical and Veterinary Science, the foundation of which he had done so much to inspire. Few are aware of the extent and value of all he did to that end. In 1945 he visited the United States and spent some months inquiring on behalf of the University of Adelaide into medical post-graduate education, especially as it affected medical officers returned from World War II. He felt it keenly when he found that his failing strength compelled him to abandon attendance at the meetings in Melbourne of the committee entrusted with the award of travelling bursaries and scholarships to returned medical men. While he was in the United States he wrote for *The Advertiser* a series of articles relating to medical progress, military and civil. He received the honour of knighthood in the New Year Honours of 1941.

For forty years de Crespigny occupied a great place in the medical life of South Australia, and as a medical consultant he without doubt ranked with the best. His personality is one not easy to limn in words. He had a tall, spare, graceful figure, wore pince-nez and was always well dressed. He was never in a hurry, though those who waited for him not seldom wished he would be. He gave one the impression of silent strength. The distinction of his name and lineage may have prompted him to take himself seriously and mould the rather isolated personality he became. This sense of superiority was assumed without conceit, and he certainly had the intellectual gifts to warrant it. Conscious of isolation, he craved friendship, which he got in good measure from the rather restricted circle of those who had probed and found the good fellowship that lay concealed. De Crespigny was a man of taste and refinement. He liked good pictures and good literature.

His influence on his patients was dominating. It is easier to be positive than to be right; but de Crespigny generally was right, and his patients accepted his judgement of their case as final. He was at his best in dealing with neurotic women. He pitted his personality against theirs, and the issue was seldom in doubt.

Many are the stories that have gone the rounds about him. I mention one only which was told me by an onlooker. He was examining a small boy whose mother had stated that he was backward. "What is the first letter of the alphabet?" he asked the boy, whose only response was to howl. "What letter of the alphabet comes after A?" continued de Crespigny. Another howl followed. "Say B, dearie", suggested the mother coaxingly. "Please, madam", said de Crespigny tartly, "don't interrupt. I am trying to estimate your boy's intelligence, not yours." This sally not unnaturally caused the ward sister to laugh. Her levity was promptly repressed, and she wept. The scared mother joined her, and all three sobbed together.

Sir Trent married, first, in September, 1906, Beatrice Hughes, who died in 1943. There were two sons and two daughters of this marriage. His second wife, who has a daughter, was Mary, daughter of William C. Jolley, of Rendlesham, Wentworth, New South Wales. She survives him.

Dr. R. L. Thorold Grant writes: In my tribute to the memory of Constantine Trent Champion de Crespigny I cast my thoughts back thirty-eight years to when I first

came in contact with him; he was then an honorary assistant physician at the Adelaide Hospital, and we students in the third year of our medical course were attached to him as clinical clerks. We had heard of this man before from students senior to us; we had seen him riding a bicycle on his way to perform an early morning autopsy at the hospital. We were to learn the value of attendance at these autopsies, for here, performing them with skill, was a clinician whose belief was that a sound knowledge of medicine had its basis in the study of morbid anatomy. We were also to learn that he did not suffer fools gladly, and that he abhorred laziness or palpable lack of interest in the student's duties. Our time with him was all too short, for he went to World War I and we were deprived of the advantage of guidance from this superb teacher of clinical medicine. My next outstanding memory of him is concerned with the privilege of acting as his house physician at the Adelaide Hospital. Here was a man to work for and to listen to. Many a graduate of the Adelaide medical school



can look back on this time and reckon that here was the beginning of any knowledge of clinical medicine he was to attain. Great use was made of clinical pathology: the resident had a busy time with venipuncture, lumbar puncture and the performance of test meals, to name some of his duties. He was expected to attend to as much of the subsequent investigations as he was capable of himself, and, of course, to perform his own blood counts.

During the last thirty years it has been my good fortune to be associated with him in private practice. His consulting practice at North Terrace was a vast one; in his hey-day, prospective patients would have to wait three weeks for an appointment in matters of lesser urgency. He was in great demand as a consultant, and an excellent consultant he was from the point of view of a valuable opinion and a solace for anxious relatives. Many people in the country asked for his opinion in consultation; he spent much time in long journeys, but whenever possible he travelled by air. He was one of the medical pioneers in the use of aeroplanes.

His life was very full. Honorary duties at the Adelaide Hospital occupied two mornings a week, and at the Children's Hospital another two mornings. He attended numerous meetings in connexion with the profession. He was Dean of the Faculty of Medicine and lecturer in medicine at the university. His outside interests were



varied. He came from a fighting family and considered that his prime duty in life was to participate in any war in which the British Empire was involved. He had a long and honourable period of service in World War I, and he probably made himself a nuisance to the authorities when they refused his application to go abroad in World War II.

He liked travel in strange and out of the way places; he was fond of motoring and he survived several mishaps, but driving with him was something which his friends did not always enjoy. He understood and appreciated good food and wine; he liked his club; he enjoyed a game of chess. He was a collector of good paintings and good books. He liked his garden, and he loved flowers. I shall always associate him with green ixtas, a special favourite of his. He was a wonderful friend; in sickness and in health here was one who would always help you. A very old patient of his wrote to me after his death and said that she now felt like a ship without a rudder.

It was my privilege to act as his medical attendant. Two years before his death he suffered an extensive coronary occlusion, from which it was thought he could not recover. But recover he did, to work hard for a further period, taking in his stride the performance on him of a major abdominal operation. The last three months of his life, when he sat waiting patiently and bravely for the inevitable end, were truly sad to witness, but the sorrow would be banished temporarily by a cheerful flash of the old spirit accompanied by some *bon mot*.

Good-bye, Crep, old friend. We shall never forget you.

Dr. Henry Halloran writes: I cannot let the occasion pass without paying tribute to the memory of Constantine Trent Champion de Crespigny, a physician of heroic stature, whose splendid intellect, coupled with a very human and understanding heart, made him a tower of strength to those patients, students and colleagues who were privileged to become associated with him. His philosophy of life, realistic as it was, had nevertheless a sublimity which accorded with the character of the man. Well did he embody the ideals of Osler. *Vale! Sir Trent.*

## Naval, Military and Air Force.

### APPOINTMENTS.

The following appointments, promotions *et cetera* are promulgated in the *Commonwealth of Australia Gazette*, Number 9, of February 12, 1953.

#### NAVAL FORCES OF THE COMMONWEALTH.

##### Permanent Naval Forces of the Commonwealth.

**Termination of Appointment.**—The appointment of Harold Marcus Rhys James as Surgeon Lieutenant (for short service) is terminated, dated 31st December, 1952.

##### Citizen Naval Forces of the Commonwealth.

###### Royal Australian Naval Reserve.

**Resignation.**—The resignation of Robert Spencer Packard of his appointment as Surgeon Lieutenant is accepted, dated 30th September, 1952.

**Appointment.**—William George Telleson is appointed Surgeon Lieutenant, dated 21st December, 1952.

**Transfer to Retired List.**—The following is transferred to the Retired List: Surgeon Lieutenant-Commander Donald Keith McKenzie (dated 2nd December, 1952).

###### Royal Australian Naval Volunteer Reserve.

**Appointment.**—Eric Osborne Longley is appointed Surgeon Lieutenant, with seniority in rank of 8th January, 1951, dated 4th December, 1952.

#### AUSTRALIAN MILITARY FORCES.

##### Australian Regular Army.

###### Royal Australian Army Medical Corps (Medical).

The short service commission granted to 1/8031 Captain (Temporary Major) S. M. Stephenson is extended to 24th December, 1952.

1/8031 Captain (Temporary Major) S. M. Stephenson relinquishes the temporary rank of Major and is transferred to the Reserve of Officers (Royal Australian Army Medical Corps) (Medical) (1st Military District), 25th December, 1952.

##### Regular Army Special Reserve.

###### Royal Australian Army Medical Corps (Medical).

The following officers are appointed from the Reserve of Officers, and to be Captains (provisionally): Honorary Captains NX700417 J. H. Steele-Smith, 17th November, 1952, VX700306 J. S. Crosbie, 18th September, 1952, and VX700309 A. C. L. Clark, 30th September, 1952, and VX700308 Lieutenant M. S. A. Swan, 26th September, 1952.

The following officers relinquish the provisional rank of Captain and are transferred to the Reserve of Officers, Royal Australian Army Medical Corps (Medical) (2nd Military District) in the honorary rank of Captain: NX700413 W. J. Lyons, 11th November, 1952, NX700414 W. R. Chapman, 18th November, 1952, NX700411 R. Bradbury, 21st November, 1952, and NX700416 R. W. Cumming, 25th November, 1952.

The following officers relinquish the provisional rank of Captain and are transferred to the Reserve of Officers (Royal Australian Army Medical Corps (Medical)) (3rd Military District) in the honorary rank of Captain: VX700306 J. S. Crosbie, 21st October, 1952, VX700308 M. S. A. Swan and VX700309 A. C. L. Clark, 4th November, 1952, VX700310 J. F. Niall, 18th November, 1952, and VX700312 G. W. Briggs, 3rd December, 1952.

**To be Captains (provisionally).**—VX700310 John Francis Niall, 16th October, 1952, VX700312 Geoffrey Winton Briggs, 30th October, 1952, VX700313 Alexander Goldman, 1st November, 1952, and NX700418 Graham Powis Dodd, 24th November, 1952.

##### Citizen Military Forces.

###### Northern Command: First Military District.

**Royal Australian Army Medical Corps (Medical).**—The date of appointment of 1/59168 Major (Honorary Lieutenant-Colonel) R. K. Wilson which appeared in Executive Minute No. 232 of 1952, promulgated in *Commonwealth Gazette* No. 81 of 1952, is amended to read "19th February, 1952".

###### Eastern Command: Second Military District.

**Royal Australian Army Medical Corps (Medical).**—The provisional ranks of the following officers are confirmed: Captains 2/130102 J. J. Byrne, 2/130103 B. W. Noake, 2/115677 M. T. Havyatt and 2/127012 T. W. Horne.

###### Southern Command: Third Military District.

**Royal Australian Army Medical Corps (Medical).**—The following officers are appointed from the Reserve of Officers, and to be Captains (provisionally): Honorary Captains 3/129041 B. C. A. Stratford, 30th September, 1952, and 3/147517 D. F. Mitchell, 2nd December, 1952.

###### Central Command: Fourth Military District.

**Royal Australian Army Medical Corps (Medical).**—The provisional rank of 4/31903 Lieutenant-Colonel C. M. Gurner is confirmed. To be Major, 10th December, 1952: 4/31935 Captain D. F. Hannon.

###### Tasmania Command: Sixth Military District.

**Royal Australian Army Medical Corps.**—The resignation of 6/20003 Captain (provisionally) H. D. O'Brien of his commission is accepted, 16th November, 1952.

##### Reserve Citizen Military Forces.

###### Royal Australian Army Medical Corps (Medical).

**1st Military District.**—To be Honorary Captains: William Parker Bottomley, 13th December, 1952, and Colin Reginald Busch and John Paul Eckert, 14th December, 1952.

**2nd Military District.**—To be Honorary Captain, 16th November, 1952: John Henry Steele-Smith.

**3rd Military District.**—To be Honorary Captain, 29th September, 1952: Arthur Colvin Lindesay Clark.

The following officer is placed upon the Retired List within his Military District and on the date as shown, with permission to retain his rank and wear the prescribed uniform:

**5th Military District.**—Lieutenant-Colonel A. E. Vivian, 1st December, 1952.

## Post-Graduate Work.

### THE MELBOURNE PERMANENT POST-GRADUATE COMMITTEE.

THE following programme for April, 1953, is announced by the Melbourne Permanent Post-Graduate Committee.

#### Classes for Higher Degrees and Diplomas.

1. Courses for Part I in pathology, physiology, anatomy and physics will be continued on Mondays, Wednesdays and Thursdays at the university. Basic pathology for Part II of the diplomas is included in these courses.
2. A course in higher surgery for final F.R.A.C.S., which commenced in March, will be continued on four afternoons a week until May 1.
3. Courses suitable for M.D. II-M.R.A.C.P. will be conducted, provided there are sufficient enrolments. A course in paediatrics will be conducted at the Children's Hospital, under the direction of Dr. M. L. Powell, on March 24 and 31 and April 10, 14 and 17, at 2 p.m. This will be followed by a series of demonstrations on thoracic diseases, under the direction of Dr. Clive Fitts, on April 21, 24 and 28 and May 1, 5 and 8, also at 2 p.m. Entries for the paediatrics course will close on March 17, and the fee is £2 12s. 6d. Entries for the thoracic diseases course will close on April 7 and the fee is £3 3s.
4. A course in radiodiagnosis will (it is hoped) be commenced for D.D.R. Part II in late April or early May if it seems that there will be a sufficiently large class. Those desirous of attending such a course are asked to contact the committee as soon as possible.

#### Country Course at Sale.

The Post-Graduate Committee will conduct a week-end course at the Gippsland Base Hospital, Sale, on April 18 and 19: Saturday: 2.30 p.m., Mr. A. M. Hill, "Recent Advances in Surgical Gynaecological Techniques"; 8 p.m., Dr. Howard Williams, "Respiratory Infections in Childhood". Sunday: 10.30 a.m., Dr. H. P. Taft, "The Management of Diabetes Mellitus". Fees are at the rate of 15s. per lecture, but those who have paid an annual subscription to the Post-Graduate Committee may attend without further charge. Enrolments should be made with Dr. J. M. Gooch, 54 Cunningham Street, Sale.

Inquiries concerning the above courses may be made with the Post-Graduate Committee, 394 Albert Street, East Melbourne. Telephone: FB 2547 or FB 2548.

#### Lecture-Demonstrations in Allergic Diseases.

Attention is directed to the following series of lecture-demonstrations which the British Medical Association (Victorian Branch) Section for the Study of Allergic Diseases will conduct on Thursdays, from 4 to 5 p.m., on April 16 at Prince Henry's Hospital, on April 23 at the Royal Melbourne Hospital, and on April 30 at the Royal Melbourne Hospital. Further demonstrations will be held in May, June and July. All members of the profession are invited to attend.

### THE POST-GRADUATE COMMITTEE IN MEDICINE IN THE UNIVERSITY OF SYDNEY.

#### General Revision Course.

THE Post-Graduate Committee in Medicine in the University of Sydney announces that the annual general revision course will be held in Sydney for two weeks, beginning on April 20, 1953. The course, whilst of a general nature, has been specially designed to give emphasis to the neurological and psychiatric problems in general practice.

Several papers on psychiatric subjects will be presented and a demonstration will take place at Broughton Hall Psychiatric Clinic, Leichhardt. A symposium will be held on virus diseases and seminars have been arranged on blood disorders, hernia, new drugs and therapeutic measures, obstetrics and gynaecology. A panel discussion on problems in general practice will be held and a question time has been arranged; many other subjects are included in a comprehensive programme.

The course will be supervised by Dr. Ian Collins. Fees for attendance will be as follows: full course, £12 12s.;

mornings or afternoons only, £6 6s.; one week only, £6 6s. Early application, enclosing remittance, should be made to the Course Secretary, the Post-Graduate Committee in Medicine, 131 Macquarie Street, Sydney. Telephones: BU 5238, BW 7483. Telegraphic address: "Postgrad, Sydney." Candidates may submit, in writing, questions for the Panel Discussion and Question Time. The full programme may be obtained on application to the committee.

#### Course for Diploma in Dermatological Medicine.

The Post-Graduate Committee in Medicine in the University of Sydney announces that the next course for the D.D.M. Part I will begin on June 8, 1953, for a period of twelve weeks, and will be followed by a Part II course of lectures from August 31, 1953, to about February, 1954. These courses will be held subject to receipt of a sufficient number of applications, and all those candidates intending to enrol should register their names with the committee not later than May 1, 1953. The regulations governing the diploma in dermatological medicine have recently undergone revision, and copies of these altered regulations may be obtained on application to the Course Secretary, the Post-Graduate Committee in Medicine, 131 Macquarie Street, Sydney. Telephones: BU 5238, BW 7483.

## Research.

### COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANIZATION.

THE following members of the medical profession have been appointed members of State Committees of the Commonwealth Scientific and Industrial Research Organization to hold office until December 31, 1955.

*New South Wales:* The Honourable Sir Norman Kater.

*Victoria:* Emeritus-Professor Sir Peter MacCallum, Emeritus-Professor Harold Addison Woodruff, Sir Macfarlane Burnet.

*Queensland:* Professor Walter Victor Macfarlane, Dr. Oswald Ellis Joseph Murphy.

## Royal Australasian College of Surgeons.

### OPEN MEETING.

A MEETING arranged by the Royal Australasian College of Surgeons will be held in the Stawell Hall, The Royal Australasian College of Physicians, 145 Macquarie Street, Sydney, on Wednesday, March 25, 1953, at 8.15 p.m. Dr. Harley Turnbull and Dr. F. Duval will each read a paper on "Treatment of Cancer of the Breast". This meeting is open to all members of the medical profession.

### A NOTICE TO FELLOWS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE Council of the Royal Australasian College of Surgeons desires to interest Fellows of the Royal College of Surgeons of England, who are not Fellows of the Australasian College, in the scientific activities of the College. With this end in view, the Council will consider applications from Fellows of the Royal College of Surgeons of England, who are not Fellows of the Australasian College, but who are desirous of enjoying the facilities available from the Australasian College and the services rendered by it to its Fellows.

On approval of their application by the Council and on payment of an annual subscription, the applicants would receive the Gordon Craig Library service, receive notices of all College scientific meetings, be invited to all formal functions and receive *The Australian and New Zealand Journal of Surgery* to which they would be encouraged to contribute articles. However, because they would not be Fellows of the College, they would be unable to stand for election to the Council and be ineligible for appointment to membership of State or Dominion Committees or of the Court of Examiners, nor could they be invited to attend business meetings of Fellows.

Those Fellows of the Royal College of Surgeons of England who desire to apply to the Council for these facilities should communicate with the Secretary not later than March 31, 1953, so that their applications may be considered by the Council at its next meeting.

Applicants should provide the following information: (a) full name and address, (b) date of birth, (c) place of birth, (d) date of graduation, (e) medical school, (f) date of obtaining the Fellowship of the Royal College of Surgeons of England, (g) other senior qualifications held, (h) any other information which may be considered relevant.

## Australian Medical Board Proceedings.

### NEW SOUTH WALES.

The following have been registered, pursuant to the provisions of the *Medical Practitioners Act*, 1938-1950, as duly qualified medical practitioners: Waters, Horace Stanley, M.B., Ch.B., 1918 (Univ. Melbourne); Robertson, Arnold William, M.B., B.S., 1936 (Univ. Sydney).

The following additional qualifications have been registered: Bellemore, Charles Francis (M.B., B.S., 1943, M.S., 1947, Univ. Sydney), F.R.C.S. (England), 1952; Duval, Ferdinand (M.B., B.S., 1937, Univ. Sydney), D.M.R. (London), 1945; Thomson, Helen Elizabeth (M.B., B.S., 1946, Univ. Sydney), D.G.O. (Univ. Sydney), 1950, M.R.C.O.G., 1951; Lewis, Montague Bernard (M.B., B.S., 1947, Univ. Sydney), D.D.M. (Univ. Sydney), 1952.

### QUEENSLAND.

The following have been registered, pursuant to the provisions of *The Medical Acts*, 1939-1948, of Queensland, as duly qualified medical practitioners: Doust, Kenneth McGowan, M.B., B.S., 1952 (Univ. Sydney); Martin, Gwenda

Elizabeth, M.B., B.S., 1950 (Univ. Sydney); Broadfoot, Eric Murray, M.B., B.S., 1950 (Univ. Sydney); D'Arcy, Arthur Frederick Joseph, L.M.S.S.A. (London), 1927.

The following additional qualifications have been registered: Harrison, Eileen Harriet, D.M.R.T., R.C.P. and S. (London), 1948; Hart, Daniel Roberts Lloyd, D.O., R.C.P. and S. (London), 1951; Sampson, Victor Edward, M.R.A.C.P., 1952; Willson, John Hector, F.F.A., R.A.C.S., 1952; Fowles, Winifred Lambert, M.F.A., R.A.C.S., 1952.

### TASMANIA.

The following have been registered, pursuant to the provisions of the *Medical Act*, 1918, as duly qualified medical practitioners: Robertson, Ian Flett, M.B., B.S., 1952 (Univ. Melbourne); Harwood, John William, M.B., B.S., 1953 (Univ. Adelaide); Gardiner, Robert Edward, M.B., B.S., 1952 (Univ. Melbourne); McPhate, Alan Peter, M.B., B.S., 1952 (Univ. Melbourne).

## Notice.

### POST-GRADUATE GOLF CUP.

THE Post-Graduate Committee in Medicine in the University of Sydney announces that a Stableford competition for the Post-Graduate Golf Cup will be played at the Royal Sydney Golf Club, Rose Bay, on Friday, April 24, 1953. The winner will be presented at the conclusion of the match with a miniature of the cup, which he will retain permanently, and his name will be inscribed on it.

The following are eligible to compete: (a) post-graduate students attending the General Revision Course, 1953; (b) post-graduate students who have attended any course conducted by the committee during the previous twelve months; (c) visiting lecturers; (d) members of the Post-Graduate Committee in Medicine and its subcommittees; (e) honorary

DISEASES NOTIFIED IN EACH STATE AND TERRITORY OF AUSTRALIA FOR THE WEEK ENDED FEBRUARY 14, 1953.<sup>1</sup>

Disease.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Northern Territory.	Australian Capital Territory.	Australia.
Acute Rheumatism .. ..	3(3)	1(1)	..	..	..	..	..	..	4
Amoebiasis .. ..	..	..	1	..	..	..	..	..	1
Ancylostomiasis .. ..	..	..	..	..	..	..	2	..	2
Anthrax .. ..	..	..	..	..	..	..	..	..	..
Bilharziasis .. ..	..	..	..	..	..	..	..	..	..
Brucellosis .. ..	..	1(1)	..	..	..	..	..	..	1
Cholera .. ..	..	..	..	..	..	..	..	..	..
Chorea (St. Vitus) .. ..	1(1)	..	..	..	..	..	..	..	1
Dengue .. ..	..	..	..	..	..	..	..	..	..
Diarrhoea (Infantile) .. ..	3(1)	1(1)	10(9)	..	..	..	1	..	15
Diphtheria .. ..	12(9)	1(1)	2(1)	..	3(2)	..	..	..	18
Dysentery (Bacillary) .. ..	..	2(2)	2(2)	..	1(1)	..	..	..	5
Encephalitis .. ..	..	..	..	1(1)	..	1	..	..	2
Filariasis .. ..	..	..	..	..	..	..	..	..	..
Homologous Serum Jaundice .. ..	..	..	..	..	..	..	..	..	..
Hydatid .. ..	..	..	..	..	..	..	..	..	..
Infective Hepatitis .. ..	..	7(3)	..	..	23(21)	..	..	..	35
Lead Poisoning .. ..	..	..	1	..	..	..	..	..	1
Leprosy .. ..	..	..	..	..	4	..	..	..	4
Leptospirosis .. ..	..	..	2	..	..	..	..	..	2
Malaria .. ..	..	..	..	..	..	..	..	..	..
Meningococcal Infection .. ..	2(2)	3(2)	3(2)	..	..	2(2)	..	..	10
Ophthalmia .. ..	..	..	..	..	1	..	..	..	1
Ornithosis .. ..	..	..	..	..	..	..	..	..	..
Paratyphoid .. ..	1	..	..	..	..	..	..	..	1
Plague .. ..	..	..	..	..	..	..	..	..	..
Polio-myelitis .. ..	14(7)	10(4)	4(1)	26(22)	1(1)	3	..	..	58
Puerperal Fever .. ..	..	..	..	..	3(1)	..	..	..	19
Rubella .. ..	..	16(5)	..	..	1(1)	..	..	..	1
Salmonella Infection .. ..	..	..	..	..	1(1)	..	..	..	..
Scarlet Fever .. ..	16(9)	34(22)	3(2)	..	1(1)	1	..	..	55
Smallpox .. ..	..	..	..	..	..	..	..	..	..
Tetanus .. ..	..	..	..	..	..	..	..	..	..
Trachoma .. ..	..	..	..	..	..	..	..	..	..
Trichinosis .. ..	..	..	..	..	..	..	..	..	..
Tuberculosis .. ..	62(43)	13(9)	19(15)	7(6)	6(5)	4(3)	1	..	112
Typhoid Fever .. ..	..	..	4(1)	..	..	..	..	..	4
Typhus (Flea-, Mite- and Tick-borne) .. ..	..	..	..	..	1(1)	..	..	..	1
Typhus (Louse-borne) .. ..	..	..	..	..	..	..	..	..	..
Yellow Fever .. ..	..	..	..	..	..	..	..	..	..

<sup>1</sup> Figures in parentheses are those for the metropolitan area.



medical officers and resident medical officers of hospitals participating in post-graduate work in New South Wales; (f) teachers in the faculty of medicine of the University of Sydney (this includes the members of the honorary medical staffs of all clinical schools); (g) members of the annual subscription course.

Applications to compete should be made on the prescribed form, which is available from the Post-Graduate Committee, and lodged with the Course Secretary of the Committee, 131 Macquarie Street, Sydney, as soon as possible, but not later than Friday, April 17, 1953. The fee of 17s. 6d., including lunch, which will be available at the golf club house, must accompany the application.

## Medical Prizes.

### AUSTRALIAN ORTHOPÆDIC ASSOCIATION'S PRIZE.

THE Australian Orthopædic Association will award its prize for 1954 of twenty-five guineas for the best original and unpublished essay on "The Treatment of Pott's Fracture and a Study of End-Results". Entrants for this prize are to be either sixth year medical students or graduates of not more than five years' standing at the date of closure. The essay shall not exceed 5000 words, and if no essay is deemed of sufficient merit, the committee retains the right to withhold the prize. The publication rights of the essay shall belong to the Australian Orthopædic Association.

Essays shall be typewritten with double spacing and should be in triplicate; they should be forwarded under a pseudonym to the Honorary Secretary, Dr. A. R. Hamilton, 135 Macquarie Street, Sydney. A separate sealed envelope should be enclosed containing the name and address of the candidate, together with the pseudonym used. Entries will close on March 31, 1954.

## Deaths.

THE following deaths have been announced:

GREEN.—Brian Geoffrey Green, on March 5, 1953, near Adaminaby, New South Wales.

KIRKLAND.—Thomas Speirs Kirkland, on March 5, 1953, at Sydney.

MCINERNEY.—John Cranstoun McInerney, on March 1, 1953, at New Guinea.

## Medical Appointments.

Dr. E. S. Morris has been appointed a member of the Parole Board in the Department of the Attorney-General and of Justice, New South Wales.

Dr. C. J. Cummins has been appointed a member of the Aborigines Welfare Board in the Chief Secretary's Department, New South Wales.

Dr. Patricia Joan Chapman has been appointed to the State Hospitals and Homes in the Department of Public Health, New South Wales.

Dr. B. R. Overend has been appointed a member of the Dental Board in the Department of Public Health, New South Wales.

Dr. J. F. Akeroyd has been appointed an official visitor to the Repatriation Mental Hospital, Bundoora, Victoria.

Dr. A. S. Ellis has been appointed senior medical officer in the Mental Hygiene Branch of the Department of Health, Victoria.

Dr. E. V. Keogh has been appointed Director of Tuberculosis in the Department of Health, Victoria.

Dr. W. J. W. Close has been appointed a member of the Dental Board of South Australia, as the nominee of the British Medical Association.

Dr. J. A. Ferris has been appointed an anaesthetist (part time) to the Tuberculosis Services Chest Clinic at the Royal Adelaide Hospital.

Dr. J. J. Donnellan has been appointed metropolitan medical officer of health in the Department of Public Health, New South Wales.

Dr. F. J. Horan has been appointed an official visitor to the Lachlan Park Hospital, New Norfolk, Tasmania.

Dr. Morris Arthur Walker has been appointed Quarantine Officer, Port Adelaide, South Australia, under the provisions of the Quarantine Act, 1908-1950.

## Nominations and Elections.

THE undermentioned have applied for election as members of the New South Wales Branch of the British Medical Association:

Pountney, Richard Knowles, M.B., B.S., 1952 (Univ. Sydney), Russell Road, New Lambton, Newcastle, New South Wales.

Thompson, Rodney Fourro, M.B., B.S., 1952 (Univ. Sydney), 38 Eastwood Avenue, Eastwood, New South Wales.

## Diary for the Month.

- MARCH 24.—New South Wales Branch, B.M.A.: Council Quarterly.
- MARCH 25.—Victorian Branch, B.M.A.: Branch Council Meeting.
- MARCH 26.—New South Wales Branch, B.M.A.: Annual Meeting.
- MARCH 26.—South Australian Branch, B.M.A.: Scientific Meeting.
- MARCH 27.—Queensland Branch, B.M.A.: Council Meeting.
- MARCH 28.—Victorian Branch, B.M.A.: Country Branch Meeting.
- MARCH 31.—New South Wales Branch, B.M.A.: Council (Election of Officers).

## Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment mentioned below without having first communicated with the Honorary Secretary of the Branch concerned, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

**New South Wales Branch** (Medical Secretary, 135 Macquarie Street, Sydney): All contract practice appointments in New South Wales.

**Victorian Branch** (Honorary Secretary, Medical Society Hall, East Melbourne): Associated Medical Services Limited; all Institutes or Medical Dispensaries; Australian Prudential Association, Proprietary, Limited; Federal Mutual Medical Benefit Society; Mutual National Provident Club; National Provident Association; Hospital or other appointments outside Victoria.

**Queensland Branch** (Honorary Secretary, B.M.A. House, 225 Wickham Terrace, Brisbane, B17): Brisbane Associated Friendly Societies' Medical Institute; Bundaberg Medical Institute. Members accepting LODGE appointments and those desiring to accept appointments to any COUNTRY HOSPITAL or position outside Australia are advised, in their own interests, to submit a copy of their Agreement to the Council before signing.

**South Australian Branch** (Honorary Secretary, 178 North Terrace, Adelaide): All Contract Practice appointments in South Australia.

**Western Australian Branch** (Honorary Secretary, 205 Saint George's Terrace, Perth): Norseman Hospital; all Contract Practice appointments in Western Australia. All government appointments with the exception of those of the Department of Public Health.

## Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

All communications should be addressed to the Editor, THE MEDICAL JOURNAL OF AUSTRALIA, The Printing House, Seamer Street, Glebe, New South Wales. (Telephones: MW 2651-2.)

Members and subscribers are requested to notify the Manager, THE MEDICAL JOURNAL OF AUSTRALIA, Seamer Street, Glebe, New South Wales, without delay, of any irregularity in the delivery of this journal. The management cannot accept any responsibility or recognize any claim arising out of non-receipt of journals unless such notification is received within one month.

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### Death of Her Majesty Queen Mary.

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*As this issue of the journal is in the press, news comes of the death of Her Majesty Queen Mary. During the reign of His Majesty King George V, and after his death, Queen Mary endeared herself to the peoples of the British Commonwealth, who held her in the highest honour and affection. She displayed in her life and character the ideal and admirable qualities of British womanhood and had a profound influence on the welfare of the British peoples. The members of the medical profession in Australia join with the whole people of the British Commonwealth in sympathy with Her Majesty Queen Elizabeth II and in their unshakable loyalty to the Throne.*